SOME REMARKS

ON THE

CONCORDAT WITH PORTUGAL

ADDRESSED TO

ENGLISHMEN AND BRITISH CATHOLICS

BY AN

ENGLISH LAYMAN.

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NOTE.

In case some of my Catholic readers may be inclined to consider that criticisms on their part of the recent Concordat with Portugal are out of place and not consistent with their respect for the Holy See and ecclesiastical authority, I would ask them to consider the events which have led up to the issue of this important document, só momentous in its results for British subjects. Every approved Ecclesiastical History, and a longs eries of Pontifical Acts, clearly indicate how often successive Popes have sought to free British India from the evils of the *Padroado*, and how often those efforts have been thwarted by the Portuguese Government. I think then we need have no fear in expressing our feelings, and I believe that in so doing we shall in a measure be strengthening the hands of our pastors, who sympathise with us. We need have little scruple, so long as we are conscious of our absolute loyalty to the Holy See, and that whatever happens we shall cheerfully obey Its decisions.

Let us not forget that only a few years ago the eleven Bishops of the Madras Presidency deliberately protested against the Portuguese *Padroado* in British India, and that the whole body of our Pastors, of all nationalities alike, share their sentiments, and that the Portuguese Bishops are one with them in deploring the evils involved in a double jurisdiction.

The Reverend Father John Morris, of the Society of Jesus, recently said :—

"English people are very slow to move. To get them to precede the voice of authority is all but impossible."*

In this affair of the *Padroado* we may have reason to regret our traditional slowness. We require action, not fine phrases.

India is a large country ; and some of us (even perhaps some ecclesiastics), who are placed in dioceses, which happily are untrammelled by the *Padroado*, have not had its evils forced upon our attention in the way they have been brought home to the minds of our brethren in the Bombay and Madras presidencies. But surely none of us, more especially those who are domiciled in India, can be indifferent to a matter in which is involved the development of the Church in the most promising missionary fields of the country ; I say nothing of the dignity of the British Empire. In Calcutta, where the number of influential Catholic Englishmen is considerable, some definite action might be taken.

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* Article in The *Month*, January 1887. "The English Martyrs."

To those, who, hitherto, have not interested themselves in the matter, I would suggest a perusal of two excellent pamphlets entitled *The Padroado Question*, and *The Concordat Question*, both published at the Examiner Press, Bombay, in 1885. These little works have been of great service in clearing an old controversy, and Englishmen will be impressed with the fairness, and calm practical common sense with which they are written : I do not doubt they have put reason into the minds of many a former "Padroadist." Their appearance was opportune at a moment when the want of a plain and accurate statement of the case was rendered necessary and provoked at Bombay by the inflammatory speeches which, by certain individuals, had been addressed to the ignorant and in which plain facts had been distorted. The publication of these works was not pleasing to the agitators, some of whom have published a farrago of nonsense and abuse, which they are pleased to think will be accepted as a refutation. They have ascribed the authorship of these two pamphlets to the venerated Bishop Meurin, whose retirement all India deplores. If his Lordship be the author, he has only added one more obligation to the many under which he has placed us. It is enough for us to remember that one of those pamphlets, that entitled *The Concordat Question*, has received the high praise and approval* of the Holy Father Himself, and this is in itself an additional reason to convince us that we enjoy the sympathy of His Holiness in the present crisis, and to encourage us to express our feelings.

Calcutta,
March, 1887.

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* *Letter of the Cardinal Secretary of State to the author, dated Rome 8th October 1885.*—"The present [of the pamphlet] was very agreeable to both the Sovereign Pontiff and myself; for in this time there cannot be anything more useful and opportune for the Catholics of those countries, than a treatise on the aforesaid question in the manner you have dealt with it. His Holiness, therefore, while duly praising and thanking you, &c. &c."

To the Editor of the ______________________

Sir,

From time to time allusion has been made in the newspapers to a Concordat signed on the 23rd June 1886 between the Holy See and the King of Portugal, with respect to the Catholic Church in India and Ceylon. At first sight it has probably appeared to many persons that this Concordat put a happy termination to a long standing dispute regarding the ecclesiastical patronage (*Padroado*) claimed by the Portuguese Crown, a dispute which has dragged itself along through several generations, not without serious and mischievous consequences.

If this were all, every just person would have cause to rejoice at so desirable an issue. But it seems to me, that in such criticisms of this important document, as have appeared in the newspapers, its political import has been to some extent overlooked, and with your permission I now desire to make a few remarks from the point of view of a *Catholic Englishman and layman*. I feel sure that all true British subjects, whatever be their creed, when the case is laid before them, will agree that the pretensions of the Portuguese Government to meddle with the ecclesiastical affairs of British India and Ceylon, are not compatible with equity or common sense, are derogatory to the British Crown, and carry with them an element of political danger.

To make my meaning clear, allow me first to briefly recapitulate the principal provisions of the Concordat, in so far as they bear upon the points I have indicated above.

(1) The Archbishop of Goa, a Portuguese possession, becomes Patriarch of all India and Ceylon: all the ecclesiastical Councils of India and Ceylon are, as a rule, to be held at Goa, under the presidency of the said Archbishop, whose own diocese will include a large tract of British Territory.

(2) This Archbishop, not residing in British territory, will exercise metropolitan jurisdiction over the three dioceses of Damaun, Cochin and San Thomè (Madras) all of which consist entirely of British territory, with the exception of two small patches.

(3) Not only will the Portuguese King nominate the Archbishop of Goa, but he will also nominate the three Bishops of the dioceses named above

(4) Further, the King of Portugal is allowed a more limited, but none the less real, privilege of nominating the Archbishops of Bombay, and the Bishops of Mangalore, of Quilon and of Madura.

(5) Lastly, all the Churches, Chapels, Schools and other establishments now subject to the jurisdiction of the Archbishop of Goa, in Bombay, Madras and many other parts of India and Ceylon, even though built at the expense of Native Christians, (British subjects) are reckoned to be the property (*bens proprios*, to quote the Portuguese text) of Portugal.

Before going further, I ought to observe that the diocese of Damaun comprises a great portion of the City of Bombay, while that of San Thomè equally includes a portion of the town of Madras. It follows then that this King is practically to have the selection of the spiritual rulers of us Catholic British subjects, Englishmen, Irishmen, Natives and others, in two of the presidency towns, and in nearly all parts of India where Christians are most numerous.

This, then, is the extraordinary effect of the Concordat. The position created for us, Catholic British subjects, is without parallel in the whole world, and, as far as I know, in all ecclesiastical history. We are the subjects of a mighty European power, which protects all religions, and we need no foreign power to pretend to guard our spiritual interests. The position in which we are placed is so remarkable, that I would ask all Englishmen to consider it carefully. The time seems to have come for us to speak out. But people will ask, how is it that a Concordat, so repugnant to English feeling, one which in so many points almost entirely concerns British subjects, and British subjects alone, has been brought about? I am concerned only with present facts, but it is necessary to say a few words on the history of the connexion of the Catholic Church in India with Portugal to explain the present situation.

Every one knows that in the 16th century, the time of its Eastern prosperity, the Crown of Portugal did its best to propagate the Christian religion in India, Ceylon and elsewhere. In consideration of these efforts the Pope granted to the Crown of Portugal the privilege of nominating the Bishops and ecclesiastics of India and other oriental countries, not merely on the invariable condition of providing the necessary endowments, &c., but also of protecting the Christians, a protection useful at a time when India was governed by a multitude of Hindu and Mussalman despots, and Portugal was powerful enough to exercise an efficient protectorate.

But with the fall of the Portuguese power in the East, the Crown of Portugal ceased to be able to afford any protection to the existing Christian communities or to give any moral or material aid for the conversion of the heathen. Such being the case, the Holy See was compelled to take other measures. After infinite patience, It sent Bishops and Missionaries to the East without any reference to Portugal, and these were independent of the Crown of that country; the Sovereign Pontiffs have continued to do so to our own days. It is Their action alone that has saved the Catholic Church from practical extinction in the East, and has raised her to her present honorable and progressive position in India and Ceylon.

But from that time forward Portugal has opposed and sought to thwart every such measure taken by the Pope in the interests of Christianity in the East. I need not speak of the remote past, nor of the deplorable events of the last century. It will suffice to recall that within the memory of persons still living, Portugal opposed the Pope's appointment, even though the consent of the British Government had been given, of Bishops for Calcutta, Madras, Madura and Ceylon, at a time when for want of pastors, the Catholic community in British India had sunk into an unsatisfactory state. Though unable and unwilling to help to remedy this state of affairs, and occupied as it was at that very time in robbing the Church at home, and in its colonies, the Portuguese Government preferred that Catholics in British India should perish rather than they should be ministered to except by its own subjects.

It even had the insolence to endeavour to enlist the authority of the British Government against the Pope, but without effect.

Some years later, in 1857, actuated, I suppose, by a hope that a conciliatory and indulgent policy would disarm the opposition of the Portuguese Government and secure its hearty co-operation for Catholic interests alike in Portugal and in India, but misled by Portuguese misrepresentations, the late Pope Pius IX concluded a Concordat, by which the pretentious claims of the Crown of Portugal were recognised. The whole of India and Ceylon was to be cut up into Portuguese dioceses, ruled by Bishops nominated by the King, and the Bishops appointed directly by the Pope were to be gradually withdrawn. This Concordat came to nothing, as might have been expected, and an unsatisfactory, temporary and unsettled state of affairs has prevailed down to the present day.

It will naturally occur to persons to ask why in this 19th century the Pope does not make short work of the obsolete pretensions of a third-rate Government to meddle in the ecclesiastical affairs of British subjects, and take His own line of action without any reference to the wishes of the Portuguese King. The question is just, but the matter is easily explained. In the past, when the Pope has tried to ameliorate the ecclesiastical condition of India, the answer of the Portuguese Government has been to persecute the Church at home, to expel the religious and missionary orders, to confiscate their goods, to reduce the clergy to destitution, and to place every difficulty in the way of the ordinary government of the Church in Portugal. There is always a danger of exciting a repetition of a similar policy.

India, therefore, has in a measure to be sacrificed for the good of the Church in Portugal. Moreover, the Pope cannot afford, with a stroke of the pen, to sweep away privileges which former Popes, although in entirely different circumstances, have been pleased to confirm. By so doing He would, as it were, invalidate or weaken the force of Concordats made with other Powers, to whom He might thus give reason to conclude that the word of a Pope was of no value.

These considerations will explain the long patience of the Holy See. For a quarter of a century, Leo XIII and his predecessor endeavoured to bring the Portuguese Government to reason. That Government always declined to come to terms, except on the basis of the abortive Concordat of 1857, by which the whole of India and Ceylon was to become an ecclesiastical dependency of Portugal. Such a mode of settlement was of course out of consideration in the present circumstances, and it was only when, in 1884, the Pope was on the point of limiting the patronage of Portugal to Portuguese possessions, that the Government of that country somewhat moderated its pretensions and agreed to reconsider the question. The result is the Concordat of 1886, which forms the subject of this letter.

Portugal seems on the whole satisfied with this Concordat, and well she may be, for the privilege of nominating no less than eight of the Archbishops and Bishops of India, three of them to rule in our Presidency towns, gives her an undeserved prestige, and the privilege is all the more remarkable, when we remember that these same Bishops will have to govern about one-half of the total number of Catholic British subjects in India,few of whom have any desire to be connected with Portugal in any sort of way whatever: on the contrary, we Englishmen, Irishmen and natives feel a strong repugnance to this dependence on the Portuguese Government.

We, the laity, have generally kept silence hitherto: we did not wish to increase the difficulty of an already difficult and delicate position, and we know that the Pope has done as much as was in His power to deliver us from this Portuguese incubus. But although, as He Himself says in His letter (dated 14th September 1886) to the Portuguese Bishops, He has treated Portugal with extreme indulgence, a small but noisy section of the Goanese laity (followed by a few natives, whose motives are not above suspicion) is not satisfied: these persons even now clamour for a further extension of Portuguese privileges, and would even seem to suppose that our churches and other establishments ought to be reserved, not for the extension of religion, but to provide a respectable career for their own impecunious relatives. The newspapers contain reports of meetings, of disrespectful petitions and insolent telegrams to Lisbon and Rome which can hardly be interpreted except in this sense.

Such being the case, it seems undesirable for us to remain silent any longer, lest people in Europe and India should suppose that this noisy minority represented the wishes of any considerable portion of the Catholic community. We, a large and respectable body, have at least as much right as a handful of Goanese nobodies—many of whom come to pick up a living in British territory, and none of whom appear capable of taking an enlightened or disinterested view of the matter—we, I say, have at least as much right as they to express our feelings. We are able to do so without any disrespect to the Pope, Who, as was to be expected in a Pontiff Whose prudence is admired by all, and Who fully knows what the circumstances of modern times require, wished, if it had been possible for Him to have His own way, to limit the Portuguese patronage to Portuguese possessions, with two small Dioceses formed in the neighbourhood of Bombay and Goa.

I wish to put the case before all impartial minds, and to call special attention to its political aspect ; I wish to ask all Englishmen what is the signification of this privilege attached to the King of Portugal not only of appointing Bishops in an English country, but even of considering himself the *owner* of all the establishments, churches and chapels, of all the immoveable properties which Catholic congregations have founded? Why also that right of presentation to the four Sees of Bombay, Mangalore, Madura and Quilon ?

It has always been the policy of the British Government in India to abstain from interference in religious matters. Surely we its Catholic subjects have a right to expect that, if it, the Government most interested, abstains from interfering, it will allow no outside Government to interfere. The British Government is not the arbitrary and sanguinary rule of some African savage, that a third-rate power like Portugal is needed to intervene between it and its Catholic subjects for their protection. The British Government and English people would seem to be demented in tolerating this Portuguese invasion, as distasteful to the community affected, as it ought to be to the Government. Is there another nation in the world which would permit such a state of affairs, one which in certain combinations of circumstances might lead to most injurious political consequences ? Not the French, assuredly, nor even Protestant Germany.

As in the past, so now, Portugal may at any time come under the influence of some great power at enmity with England, and in the present state of Europe, which seems to be on the eve of formidable complications, it behoves our Government to be wary, and to guard the interests of the Empire in this serious matter. Its indifference is extraordinary. England is a Protestant power, so is Germany. In allowing this Portuguese interference, the British Government is acting just as if after the Franco-Prussian war, Germany had allowed France to nominate the Bishops of Alsace-Lorraine. An English Bismark would make short work of the "Padroado." A statesman of that calibre would be under no misconception as to its political danger,

Certainly the British Government has the right, and is bound to protect its subjects who profess the Catholic religion, and no one can doubt that all the English and Irish in India, Civil or Military, who have realised the new situation, are aggrieved to find themselves on the point of being withdrawn from the jurisdiction of Bishops nominated and instituted directly by the Pope. Every man of intelligence, every one of large views, every one who desires the development of his Church, knows too well that little can be expected from the Goanese Clergy, which needs a large infusion of the European element to raise it from the low state to which the long misrule of Portugal has contrived to reduce it. It is then a sort of injustice, almost equivalent to persecution, done by the Government of the Queen-Empress to its Catholic subjects, when it permits this foreign invasion, and the English Catholics of India feel the blow very keenly.

They submit unreservedly and obediently to every decision of the Pope. They know, however, what His original wishes were, and that He regrets, as they do, that He has had to bend before the demands of Portugal. For this they blame the inaction of the British Government, which has given the Pope no support. All the world knows now that the Sovereign Pontiff has only made so many concessions because England has left Him alone to face the unreasonable pretensions of Portugal. The Portuguese Government has doubtless made good use of this indifference in 1886 just as we know its agents did at Rome in 1857. Neither the Home nor Indian Government can plead ignorance of the matter. I know as a fact that the negociations between the Holy See and Portugal have formed the subject of correspondence between the British Foreign Office and the Secretary of State for India, but the case has been treated as strictly confidential. Some questions on the subject were to be asked in Parliament on its reopening. Nor can the Secretary of State have forgotten the joint memorial addressed to him on the 15th August 1883 by the eleven Catholic Bishops of the Madras Presidency, in which they clearly pointed out the mischievous effects of Portuguese meddling, its political danger, and asked for steps to be taken to compel the King of Portugal to abandon his claim of patronage in British India.

It is not too late for action on the part of our Government. Some well informed persons are even of opinion that Portugal will clamour for a further extension of privileges, and that the recent Concordat will perhaps be modified even more in her favour. England may therefore even now intervene with advantage, and refuse, once for all, to tolerate in her dominions the pretension of a foreign power; but her refusal must be effective; it must not be a mere refusal to *recognise* the Concordat of 1886, like her previous refusal to recognise the Concordat of 1857. If Concordat there must be, let England herself make one with the Pope.

We have lately seen our Government recognise the authority of the so-called Buddhist "Archbishop" of Burma, and invite his co-operation in the pacification of the country. Why should it hesitate to deal in the same way with the Pope, the Spiritual Ruler of so many millions of British subjects in India and elsewhere? Is it wiser in this respect than the great Protestant Government of Germany? Is not its indifference to the interests of the Empire most culpable? How disgraceful and ridiculous it is, in particular, for England to allow churches, chapels and other establishments, built at the expense of East Indians and natives, to be regarded as the property of a foreign power!

It is time to make an end for ever of these and other claims of a Government, which can do nothing for us in the present, and is responsible for many of our former troubles. Let Portugal be put on the same footing as France. The services rendered by French missionaries in modern times to religion and education in British India, and the generous contributions of their countrymen, far outweigh all the Portuguese "blood and gold" of the remote past; and yet we have never seen the rulers of France, or of the other countries to which we Catholics are indebted, claim a control over the Church in India, much less do their best, as Portugal has done, to deprive India of missionaries, to rob her poor Churches, and degrade her clergy. Portugal trades on her deeds of the 16th century, and wishes to ignore the subsequent dark pages of her history. It is time for her to cease to boast about the glories of the past, and to begin humbly to imitate France in a generous expenditure of lives and money, without the stimulus of a "Padroado." We British subjects object to be manipulated by the King of Portugal in the nineteenth century as a souvenir of his "historic greatness" in the 16th century.

We will gladly welcome Portuguese Missionaries, just as we do those of all other nations ; there is work for all, but we would rather not have them at the price of a dependence on the King of Portugal or upon any civil ruler. We recognise the right of none such to interfere between us and the Pope, and we look to the British Government to secure this liberty in India as in England. We neither want the Portuguese King nor his money, if he has any, which we doubt. In the Concordat, Portugal undertakes to endow three Bishoprics and also chapters, seminaries, &c., in British India. Is it probable that a Government in a state of chronic financial embarrassment, one of whose latest exploits has been to put a tax upon Catholic charities, will ever be in a position to carry out this agreement ? Is it not more probable that the funds painfully gathered together by the charity of Christians in India, and reckoned, as we have seen above to be the *bens proprios* of Portugal, will be manipulated, and the endowments thus provided, we may say, at our own expense ?

In so far as the Catholic Church in India has been gradually freed from Portuguese interference, and this in spite of Portuguese opposition of extreme violence, she has prospered and taken an immediate development, but the "Padroado," though curtailed, has hung about her like a hideous spectre and checked her progress. Let this wretched "Padroado" then be restricted to Portuguese possessions. If the inhabitants of those places like to be hampered by it, it is their look out. *We*, British subjects, have no wish to interfere with *their* tastes and fancies. If the British Government can assist to bring about this desirable result, we shall be eternally thankful, and we feel sure that in so doing, our Government will only be consulting the best interests of the Empire.

BRITISH CATHOLIC.

CALCUTTA :
February 1887.

SOME REMARKS ADDRESSED TO BRITISH CATHOLICS.

The preceding letter, addressed to various newspapers, is printed for general circulation in the hope of drawing the attention of British Catholics to the new and painful position created for them in British India by the recent Concordat with Portugal, perhaps also of enlisting the friendly offices of the British Government in securing *the same religious liberty to its Catholic subjects in India, which they already enjoy in England.*

Intended, as it was, for publication in secular newspapers, the letter only touches upon such considerations, as may be expected to influence non-Catholics and Catholics alike. Had it been addressed to Catholics alone, other serious reasons might have been brought forward to show how much cause we have to dread the effect in India of the concessions, which Portuguese vanity and Portuguese obstinacy have constrained our Most Holy Father Leo XIII to grant.

In India the provisions of the Concordat have not been published in detail, except by the Goanese press, and many British Catholics have doubtless till now remained in ignorance of the new position created for them, and are still quite unaware of the enormous influence which the Portuguese Government is in future to exercise in their ecclesiastical affairs. They have been happy in the long freedom which the Church has enjoyed from civil interference. Have they yet realised that some half of their number, and several of their Bishops, are suddenly placed in a sort of dependence upon the Portuguese Government? It is time, I think, for us to measure the situation; perhaps even, but always with due respect to the wishes of our spiritual superiors, to publicly put our sentiments forward, lest our silence should be misinterpreted, if not by the Sovereign Pontiff, at least by the British Government. Till we move in the matter, it is perhaps too much to expect our Government to intervene, and to force the Portuguese Government to abstain from meddling in the ecclesiastical affairs of British India, a measure which our Government ought to take in defence of Imperial interests.

Let it be distinctly understood that in all I say, I do not mean to imply that we British subjects have any objection to Portuguese Bishops and missionaries, so long as they are pastors such as those apostolic men whose ministrations we now enjoy. It is the liberty of the Church which is dear to us. With that liberty are involved the spiritual interests of ourselves and of our children. After actually enjoying it, though under a Protestant Government, can we see unmoved that liberty constrained, and the Church in India shackled to the Portuguese Government, which, if not at present so irreligious as it used to be, has given cause by several recent acts, and notably by its unworthy persecution of the excellent Archbishop of Goa, one of its own subjects, for its intentions being suspected by all Catholics. Our religion is too serious a matter for us to pay any regard to mere national sentiment or patriotism true or affected. We have to look simply to the facts and circumstances of the present day, and it is useless to expect any sympathy from us for sentiments based on the good deeds of Portuguese Kings who have been in their graves for two or three centuries, much less for us to admit that these past glories are any reason why in the present day the Portuguese Government should exercise any ecclesiastical patronage in British India. Nothing, indeed, seems to us more unreasonable, and we can say this without the least disparagement to the Catholic nation of Portugal, which has kept the Faith in spite of Pombal and some of his modern successors. The times have changed and Portuguese Governments with them.

During the time of the obstinate Goanese schism fomented by the Portuguese Government, Pedro V, King of Portugal, in a letter dated 15th November 1856, spoke of certain persons " who will only be content with the annihilation of the entire effect of the right (*sic*) of the *Padroado* in every place which is not subject to the temporal dominion of this (Portuguese) royal crown." He also said " no concession on the part of the Royal Patron [poor injured innocent !] satisfies this hostile spirit." British Catholics in India would freely admit that they had always been these persons at whose existence this king seemed surprised. For the life of us, we cannot, at the present day, see any reason for any Portuguese " patronage" outside of Portuguese possessions. Practically we are all at one on this point, though some of us may not have paid to the matter the attention it deserves. It is useless to talk to us of " concessions." When we want to expel a trespasser from our premises, do we wait for him to offer us a " concession" of our own property ? The Pope is enough for us in all ecclesiastical matters. We do not want the Portuguese Government to block up the road. Will the British Government kindly oblige us by making " His Most Faithful Majesty" move on ?

I confess I am a little tired of hearing this Concordat glorified in Europe, even in the English Catholic newspapers, as a Catholic triumph, while we, the persons affected, have reason to regard it with apprehension, and are able to measure its probable effects. It is known full well that the concessions extorted from the Pope have been made less in Indian interests, than in the interests of religious peace in Portugal. In fact they have been made *ob duritiam cordis.* At the same time it is certain that in Europe generally, perhaps also at Rome, there is some ignorance as to the 'Portuguese' and 'Goanese' in India, what they are and what they do. Thus the Concordat speaks of "groups of Christian communities (christandades) called Goanese," also of "Goanese Missions." Some persons reading these expressions, or hearing of "Portuguese Missions" might be led to imagine that communities of descendants of the Portuguese, or at least of the Goanese, were indicated. If such were generally the case there might be some reason why these people should be provided with Portuguese pastors, though still no reason would remain why they should be dependent on the King of Portugal. But except in certain localities there are few such persons, and even where such persons exist in considerable numbers, as for instance at Calcutta and Chittagong, they almost unanimously ridicule the idea of a *Padroado* in the present day. If such is the case with persons actually of Portuguese and Goanese extraction, how much more is it so with Tamils and other natives. Take for instance the important Vicariate Apostolic of Madura (now the diocese of Trichinopoly) which possesses some 200,000 Catholics, of whom perhaps 33,000 are subject to the Archbishop of Goa. Among all these thousands I do not suppose there is a single layman of Goanese or Portuguese descent. What do poor Tamil cultivators and fishermen care or know about the *Padroado?* The mere suggestion of such an idea provokes a smile. Simple as these people may be, they are intelligent enough to care nothing about the nationality of a priest provided he be holy and zealous. For fifty years this prosperous mission has been entrusted to priests for the most part French. Its colleges and schools, its hospitals, its convents, most of its churches and chapels, and other innumerable works, are the creation of the zeal of these devoted men, assisted by the alms of France and of the Tamil Christians themselves. It was the Portuguese Government which deprived this grand mission of pastors in the last century, and it is France in great measure which has constructed a magnificent edifice upon the ruins which marked the havoc wrought by Portugal. Why then at this time of day, and in this British possession, should a large portion of this mission be handed over entirely to the Portuguese Government, and why, above all, should that Government have any voice in the selection of a Bishop for the remaining portion? The loud cries, the obstinacy and perhaps the threats of the Portuguese Government afford the only explanation, The present French Bishop has gloriously ruled the diocese for over forty years, and is now in his 83rd year. The time then is not far off, when the Government of Portugal will intervene in the choice of his successor.

Without saying anything of the Portuguese interference which is to be allowed in the dioceses of Cochin, Damaun, Mangalore, Quilon, St. Thomé (Madras) and even in the Straits Settlements, without saying anything of the deplorable double jurisdiction to remain in the dioceses of Dacca and Poona, and perhaps elsewhere, let us cast a glance at the state of affairs created in our presidency towns.

Bombay presents the saddest spectacle. There we are to have the Archbishop of Bombay and the Bishop of Damaun, both selected by the Portuguese Government, both exercising a co-ordinate jurisdiction in the same city with the inevitable confusion and want of discipline, inherent in a double jurisdiction, which exists nowhere in the world except in India. And this state of disorder is consecrated indefinitely under the title of an Archdiocese! Can anything be more sad? And what is most astonishing is that the arrangement is, as it were, quite gratuitous, and acceptable to no one; another instance of the obstinacy of the Portuguese Government. Mgr. Porter, the first Archbishop of Bombay, the only one to be appointed without reference to the king of Portugal, is a man of advanced age. While we pray that he may be preserved *ad multos annos*, we cannot help thinking that a man who comes to India for the first time at the age of 62, to be overwhelmed with new labours, and whose probable residence will be in an unsavoury back street, cut off from fresh air, is not likely to have a long career before him. And after Archbishop Porter, the trouble begins. Then the Portuguese Government is to choose his successor.

In Madras we see a portion of the city handed over to the revived Bishopric of San Thomè of which the Portuguese King is the Patron. The Prelate of this See is actually to exercise jurisdiction over a church in the city of Calcutta, to say nothing of others in the dioceses of Calcutta and Dacca, at a still greater distance from his residence! And the motive, which has actuated the Portuguese Government in retaining these churches under the *Padroado*, is not one which commends itself to Catholics in general, or justifies so regrettable an arrangement. It is alleged by the Portuguese ambassador, who negotiated the Concordat, that these churches in Bengal are rich, that their endowments amount to Rs 14,16,589, doubtless a respectable sum to be reckoned among the *bens proprios* of a foreign government. It is these funds, which have been made the sole reason for leaving these isolated churches dependent on the "Royal Patron." Catholics in general, however, certainly all those who have the interests of their Church at heart, would prefer to see these funds producing some fruit, instead of being struck with sterility. But when we read the reports of the Portuguese ambassador, we cannot help being impressed all along by his anxiety to secure to the "Royal Patron" every church with any money attached to it. This appears to have been his point all through. He seems to say: "whatever happens, we have saved the cash box." Hence we now read of "Bombaim com as suas *ricas* igrejas," of the importance of the churches of Calcutta and Dacca *em dotação*," &c. &c.,* and all naturally the ambassador is very pleased to have secured the privilege of choosing future Archbishops of Bombay, and three other Bishops without paying a penny for it "sem nenhums encargos." Such motives are not very re-assuring.

Do not all recent events give us profound reason to distrust the intentions of the Portuguese Government? Have we not lately seen the Archbishop of Goa threatened and publicly censured by his own Government for publishing the Encyclical of the Holy Father on Freemasonry, not merely in the Churches of Portuguese India, but in the Churches of British India subject to his jurisdiction? Have we not also seen this excellent Prelate,† now Patriarch of India and Ceylon, the head of our hierarchy in British India, persecuted for employing the censures of the Church against an unworthy priest? Have we not also heard of a ridiculous reprimand administered by that same Government to all the Bishops of Portugal, because they recently addressed to the Pope a letter in which they expressed their devotion to the Holy See? Are such transactions likely to inspire us with confidence, or to encourage us to believe that the *Padroado*, as worked by the Portuguese Ministry, is anything but a mischievous restriction on the liberty of the Church? It is useless to talk to us of the excellent intentions of the present King of Portugal. It is not him, but his ministers with whom we have to reckon. Till the Church is free in Portugal, we shall ever remain suspicious.

It seems to me that in allowing the Portuguese Government to have any power to interfere in the Pope's free appointment of Bishops for the Sees of Bombay, Madura, Mangalore and Quilon a serious blow has been inflicted on those missions. The charitable souls of Europe to whom they owe so much are likely to be discouraged when they see their benefactions pass in a sort of a way under the control of the Portuguese Government; in future they may prefer to bestow their alms on missions whose Bishops are the free nominees of the Holy Father Himself, without any tampering on the part of a ministry, which if not as irreligious as its predecessors, evidently cannot tolerate that Portuguese Bishops should be other than its subservient creatures. Further, the credit of Catholic Missions in this great country becomes depreciated by this civil interference, and the vast field for missionary labour may in future, with these restrictions, prove less attractive than before to some missionary prelates, to some religious orders. It is not all who would have the courage to face the position created in some parts of India. We must regret everything which, directly or indirectly, deprives India of the aid it receives from other countries or limits the choice of subjects ; we cannot spare a single missionary ; and the future of the colleges, the schools and the convents, the evangelisation of the heathen, the development and progress of works like Bishop Meurin's Lepers' Home or his Deaf and Dumb Institution, or like the Home established in Calcutta by the Little Sisters of the Poor, are all involved in this consideration.

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* Those who have seen some of the establishments specified in the Concordat, are surprised to learn of their wealth from the Portuguese Ambassador. All they can say is, that neither the state of the churches nor of the pious works (educational or otherwise) in connexion with them speak of much material prosperity, and there is a temptation to ask, "what becomes of the alleged money?"

† After such disgraceful treatment, it is not surprising to notice that, as far as we can see, the Archbishop of Goa has been completely ignored by his own Government in the negotiations which have resulted in the Concordat.

To many who have thought over the matter, this Concordat has come as a profound discouragement. We have done our best to welcome the Papal Delegate, but our joy has been mixed with sadness. The fêtes and demonstrations in honour of His Excellency, and the ceremonies of the erection of the Indian Hierarchy have in some sort seemed to us to be a solemn glorification of the troubles hopefully endured so long, and now indefinitely perpetuated. And the saddest thought of all is that perhaps this *dénouement* has been helped by our own silence. We have left the field to be occupied by certain interested individuals, wirepullers and busybodies. Their noise would almost seem to have influenced Rome ; concession after concession has been made in the sense of their agitation,* and we hardly utter a word. Some of us have believed that in this silence we were fulfilling the wishes of our spiritual superiors. These have but to hold up their hands, and we are ready to protest against this Portuguese invasion. We have had to pick up our information as best we can, from secular newspapers and other sources. Our Catholic newspapers in India have given us little or no official information, and except in the most general terms they have not alluded to the Concordat. How long is this semblance of indifference to continue ? Are we to speak, or are we to be silent, when we are convinced that Catholic interests in India are at stake ?

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*After being abolished the double jurisdiction is to be restored in the diocese of Poona, and rumour has it in Madras also. I shall not be surprised to see it revived in Ceylon, nor even to see it extended largely in Calcutta, if only the handful of Padroadists make enough noise, and this notwithstanding that so long ago as 1847 Gregory XVI in a brief dated 16th January said : " It is not expedient for us to create in the city of Calcutta a double jurisdiction, which is neither consistent with the practice of the Church, nor conducive to the promotion of peace and unity."

If we were Catholics in England the case would be different. So many details and considerations are involved in this question of *Padroado* and Concordat that we cannot expect our public men in England and newspapers like the *Tablet* and *Weekly Register* to take up the cause in advance of any action we may take ourselves. It is to be regretted, however, that up to this moment no Catholic Member of Parliament has risen to defend the interests of the Church, to defend the rights and freedom of the Holy See in this affair, and that our statesmen have been so indifferent to the honour of the British Empire. Had we but a Windthorst in the House of Commons and a Bismarck in our ministry, the last vestiges of this wretched *Padroado* would soon be swept away. In England there appears among Catholics to be a want of appreciation of the situation. The *Tablet* is a sufficient proof of this. During the last fifteen years it has rarely given any news of the ecclesiastical affairs of this vast British possession, and when it has it has fallen into queer inaccuracies, and has even sometimes, sad to say, made itself the mouth-piece of injurious Protestant statements, which have had to be corrected by our Catholic newspapers in India. We can say much the same of the few allusions it has made to our relations with Portugal and the recent Concordat. We ought then, I think, to put our case before people in England. Our Catholic newspapers in England ought to be fully instructed in the bearings of the whole matter and in a position to speak with the voice of a Catholic and an Englishman. I say the same of all our Catholic public men in England. The matter is one which, I think, might well engage the attention of the Catholic Union in that country.

It is sad for us to view so many concessions granted to Portugal, when, the more we study the case, the more we are convinced, in spite of these meetings and petitions and telegrams, of which we hear, that the whole Padroadist agitation in India and Ceylon is fictitious and superficial, got up by a few interested persons, who are not inspired by any zeal for religion. Some of us have travelled a bit, and have seen how this Padroadist business is worked in different parts of India. Wherever one goes it is much the same. In many a Padroadist congregation there are one or two big bonnets who handle the funds, or bully the priest, or enjoy a position of influence which they do not deserve. These worthies naturally have cause to dread any change which would reduce them to their proper level. Hence they are careful to keep up a warm agitation nominally in favour of the *Padroado*, for which in reality they care little or nothing, actually from other motives. In the case of some others the motive is the hope of some trumpery decoration from Portugal.[*] It is easy enough for these persons, who, to quote Tony Lumpkin in the play, are "as loud as a hog in a gate" when their interest is at stake, to persuade a lot of simple cultivators and fishermen that the "propagandists" are very terrible individuals. But sweep away the *Padroado*, and these same people would soon find these dreaded "propagandists" quite otherwise than they had been represented, and in a very short time all thought of the *Padroado*, if they ever knew what it meant, would disappear from their minds. The interested agitators know this but too well; they know that the pretended affection for the *Padroado* rests on a rotten foundation, and they cannot help confessing it in their writings.[†] Have we not in numerous instances seen the name and memory of this worn-out institution disappear for ever from the minds of thousands of people formerly its adherents? Once upon a time we were all "Padroadists" here in Calcutta, but now, of twelve thousand Catholics in this great city are there two hundred who know the meaning of the word, much less regret the change? Many other instances of this can be alleged. In Bombay and Calcutta do we not know of thousands of excellent Catholics who, though of Portuguese and Goanese descent, have always been the devoted subjects of the Vicars Apostolic, and the first to repudiate any sympathy with the exploded pretensions of Portugal?

Yes: it seems to me that the remedy for our troubles is to sweep away all vestiges of this *Padroado* in all British India. This done, all will be right in a very short time: it is the prolonged state of uncertainty and unsettledness which encourages agitators, causes division, and a number of other evils. The *Padroado* once abolished, we should never hear a word of regret from any one in India.

Here is a remarkable instance of the boundless folly produced in the minds of the ignorant by these noisy agitators. It is a telegram purporting to be from the president of a meeting at Goa: it was published in all the leading Newspapers :—

> *Goa*, *22nd October*, 1886.
>
> The Catholics of Goa held a meeting yesterday, in the City of Nova Goa, and, with the adherence of the whole of the Hindustan Catholics, resolved on protesting against the Padroado Concordat, and praying for a purely Indian hierarchy for the Indies, independent of foreign clergy, as they possess sufficient funds for its maintenance.

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[*] A former Portuguese Government actually decorated the head of a fishing caste on account of his seal for the schism. which many persons have now forgotten, and his opposition to the orders of the Pope. I have known the son and successor of this individual, gladly and more than once borrow a few annas from a "Propagandist," whom he never repaid, to pay for his railway ticket on certain occasions.

[†] "In all the churches subject to the Archdiocese of Goa, it is the custom to sing in solemn Masses the prayer for the Most Faithful King and the Royal Family. Not long ago, in one of the most remote Portuguese churches of this (Bombay) presidency, I heard Portuguese hymns sung at the Mass. Painful tears spring from my eyes when I think that perhaps soon these hymns and these prayers may cease for ever to be heard *in British India, &c. &c."—J. C. Lisboa; Letter written before the Concordat of 23rd June 1884 to a distinguished gentleman of Lisbon.*

No, thank you, Mr. President! You may keep your purely Indian hierarchy to yourself; we are only astonished at your impudent folly in pretending that you and your creatures have "the adherence of the whole of the Hindustan Catholics."

But is this demand the mere raving it seems at first? Perhaps these persons think that, thanks to the alms of the Catholic world, and to the spirit of faith and generosity developed during fifty years by European missionaries under Bishops appointed directly by the Pope, British India to-day affords for their children in its Churches a field particularly fruitful, to which they aspire to come to fill their hungry bodies. The Goanese clergy would be the first to repudiate these insulting pretensions made on their behalf: but the Padroadist agitator listens to no one; he does not even spare his own Archbishop.* As for promoting the interests of the Holy Church, converting the heathen, driving away from the flock heretical and mercenary pastors, caring for and preserving the magnificent Christian communities due to the zeal of so many holy and apostolic missionaries, none of these things enter into the heads of these people at all. If it be true that such dreamers exist in Goa, it is time to tell them that Catholic Englishmen, who have been witnesses of all that so many zealous prelates have gradually accomplished, will not permit all these sacrifices to be lost for the Holy Church, for God and for souls. Let there be an end then to these cries of the hungry, to these base calculations. There is not a Catholic Englishman who will not stand up against these monstrous pretensions, which carry with them the ruin of religion in India.

I have read many of the Padroadist petitions, telegrams, reports of meetings, newspaper articles, &c. &c. They are not all as imbecile and infatuated as the famous telegram from Goa, but the same note runs through most of them. There is a total absence of regard for the interests of religion, and of capacity for taking any large view of the matter, and their tone is uncatholic. I find little else but bombast about Portuguese glories, with much affected and spurious patriotism, and schismatical threats. Genuine patriotism is always creditable, but we are not inclined to allow the word to be prostituted in the interests of the *Padroado* in British India. Nothing can be more senseless than the arguments† employed by the agitators, and nothing is more convincing of the badness of their case and of their motives than a perusal of their writings. They think to strengthen their position by falsehoods and calumnies regarding the Bishops and missionaries in India, so absurd as to deceive no one. Even the Pope Himself is assailed; and just at this moment vials of wrath are being poured out upon Mgr. Agliardi, His delegate in India.

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* These agitators, in their false or affected patriotism, abuse or disparage the Archbishop of Goa of whose true patriotism and devotion to his country there can be no doubt. They represent him as an "Ultramontane," as an "inexperienced prelate" because their agitation gets no encouragement from him. They even suggest his removal because he is not devoted to their own false interest.

† For instance, because unhappily the Pope has been forced to tolerate the double jurisdiction *in some localities* these people pretend to think, He ought to allow the evil *everywhere!*

A little above I used the term "Propagandist." This is the pet word of the Goanese agitators to designate, to the ignorant, all the Bishops and missionaries in India, except the Archbishop of Goa and his clergy, as if it was something opprobrious for our Bishops to be in the same position as those of England, Ireland, Scotland, the United States and many other countries. My readers will see now the elegant colours in which these agitators are pleased to paint our devoted pastors under this name of "Propagandist." Here are a few typical extracts from Padroadist publications.

> "In the writers of the Propaganda the lies and calumnies against the Portuguese clergy and Government cannot be numbered; and the monumental proof of this is the famous memorial which the Vicars Apostolic of Madras addressed to......the Secretary of State for India."—*O Anglo Lusitano*, 24th February 1887.

Thus our eleven Bishops of the Madras Presidency, including Archbishop Colgan and the venerable Bishop Canoz, are here publicly stigmatized as liars and calumniators, in a print started last year in the Padroadist interest.

J. C. Lisboa of Bombay, a Padroadist *enragé*, among other ravings says :—

> "Does not the propagandist clergy turn its eyes towards advantages and worldly honours, bending the knee to the golden calf? With this end many times it has been an exactor and oppressor..........
>
> The colleges of the Vicars Apostolic are establishments of secular and profane instruction, and a *true trade* which brings them in approximately Rs. 4000 for each brother (frade) and nun."

It is difficult to know what purpose this writer means to serve by these very stupid falsehoods. We quote him because he seems to be a tolerably respectable personage among these Padroadist agitators. He (poor creature) is of opinion that Bishop Meurin should have been "suspended" or "dismissed" because His Lordship allowed articles to appear in the *Bombay Catholic Examiner*, in which the hollowness of the Padroadist agitation was exposed: he speaks also of the "subterfuges" of the Holy See, and of "the horrible oppressions and persecutions" perpetrated by our clergy.

> "Rome, led by covetousness of the gold of foreign nations, founded more than two centuries ago a Society with the specious name 'Sacred congregation for the Propagation of the Faith.' This congregation.... gave an asylum to every foreigner of doubtful morals and faith and to every one at home, who was obstructive or scandalous—to men stained with heresies —and disciplining them there, sent them to the East to usurp our missions, to sow cockle, to calumniate Portugal, Goa, and her clergy and Catholic people with hearts more faithful, to intrigue against us with the local rulers and foreign nations to persecute us by every means too shameful to conceive ......attacking us with gangs of men, assaulting our persons, our houses and properties ....These infamies, calumnies and insults, launched against our name and the usurpation of our rights of the *Padroado*, possessed for ages...... Out of Goa we have our most powerful enemies of centuries, the Propagandists, who by intrigue, cunning and stratagem work unceasingly to rob us of fame and credit, of our rights and interests........ Let us unmask our enemies the Propagandists, opposing the truth of facts to their calumnies..opposing the affronts, persecutions and vexations, which they inflict on the Catholic people of India..assuring them that we are at the side of our Indian brothers and that we are their protectors born to defend them and to free them from the hands of their persecutors ......Our most sacred rights are trampled upon; we are the victims of the insults most vile, infamous and horrible of the impudent apostolic [missionaries]......*Extracts from an address read in the Municipal chamber of the Ilhas* at Goa by Padre Antonio Francisco Xavier Alvares on 22nd August* 1886.

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* There are three Municipalities in Goanese territory That of the Ilhas is the principal

This Mr. Alvares, from whose address we cull these elegant extracts, is an unworthy priest, for good reasons suspended by the Archbishop of Goa. The *Anglo Lusitano* calls him "the well known *patriot*." He is now in Ceylon endeavouring to promote a schism. Such are the champions of the *Padroado*, and it is men like him who are the authors of the agitation got up in some quarters in favour of the same. And the simpletons who listen to him and applaud imagine they have the interests of the Church at heart, and they offer us "a purely Indian hierarchy!"

But who are these "Propagandists" whom the *Anglo Lusitano*, the Lisboas and the Alvareses represent as liars, calumniators, covetous, time servers, oppressors, persecutors, traders, immoral, heretical, scandalous intriguers, robbers, &c. &c.?

In Calcutta they are men like our good Father Lafont, known to all not only as a devoted pastor, but as a distinguished scientist and preacher, who commands the respect alike of Catholics, Protestants, Hindus and Mussalmans.

In Upper India they are men like the veteran Archbishop Jacopi, or the late Father Ildephonsus, to whom our Irish soldiers were so devoted, or to go further back, like the saintly Bishop Hartmann.

In Burma they are men like the learned Bishop Bigandet whom al Rangoon and every class and creed combined to honour quite lately on th occasion of his Golden Jubilee.

In Bombay they are men like Bishop Meurin, one of the most distinguis ed prelates who have ever been in India, whose long career was devoted the good of the Goanese, who rescued them from Protestant Schools, t whom they owe their improved educational status, and that Goanese and Catholic are no longer terms of reproach.*

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* In Bombay as in Calcutta, in our day, we have seen the domiciled Catholic community losing position, and its property passing into other hands. We have to go some way back to ascertain the cause, and in great measure we must put the blame upon the withering effects of the ancient *Padroado* which by depriving India of missionaries and rendering an efficient Catholic education impossible left the domiciled Catholics unable to face the increasing competition of educated Hindus and others. It is the strenuous efforts of the Vicars Apostolic and of Bishop Meurin especially, in favour of education, which have turned the tide, and are daily placing Catholics in a more favourable position. The Goanese have not been the last to reap the benefit.

As a zealous missionary and parish priest, as a devoted Bishop who knew how to make the best of a difficult position in a mission which was never a bed of roses, Bishop Meurin will ever be remembered by us: as the distinguished scholar and educationalist as the polished and accomplished gentleman, and as the founder of so many institutions which appeal to the sympathies of Catholics and non-Catholics alike, his Lordship will not be forgotten by any class of the community at Bombay. But his ungrateful critics are infatuated enough to imagine that their loud cries have been the cause of the Bishop's retention in Europe. Were this true, which it is not, it would be one more proof of the mischief wrought by the *Padroado*, in depriving the Indian Church of one of her brightest ornaments.

The number of Protestants bearing Portuguese names whom we encounter in Calcutta, Bombay and Madras are another proof of the practical working of the *Padroado* system in older days. Uneducated and despised, often without spiritual aid, with little cause at that time to be proud of their religion, the weaker Catholics fell an easy prey to Protestantism. The Vicars Apostolic and their clergy have set themselves to alter this and have succeeded, where the Goanese clergy, even when actuated by the best intentions, had been powerless to apply a remedy. It is not surprising then, that Methodist and other sectarian organs, with the infernal instinct of heresy, are staunch advocates of the *Padroado* agitators.

In Southern India they are men like the single-minded Bishop Fenelly of Madras, whose funeral was a demonstration of universal respect, or like his devoted successor, Archbishop Colgan, like the venerable Bishop Canoz, whom we see in his 83rd year still unceasing in his labours and his journeys, untired by 48 years of missionary life and 40 of an Indian episcopate, like Archbishop Laouënan, the trusted counsellor of the Holy Father, not to mention a host of minor names.

Further, even H. E. the Papal Delegate, Mgr. Agliardi, is one of these "Propagandists," "tyrannical" and "arbitrary" as the *Anglo Lusitano* calls him, because he carries out the orders of the Holy Father.

And these are the men, whom a few poor ignorants at Goa, inspired by a suspended native priest, propose to replace by a "purely Indian hierarchy!"

The extracts I have given suffice to shew the tone and temper of the advocates of the *Padroado*, and their un-Catholic instincts : many more examples ould be given. Can we desire any stronger proof that the *Padroado* in British India is nothing but a mischievous institution, and its total abolition the only appropriate remedy? I have no doubt that this total bolition is only a matter of time, but Rome is slow. Perhaps by interesting urselves more energetically in the matter, we may strengthen the hands of ır pastors, and hasten the end which is desired by them, as much as by our- lves. I repeat it, *we simply desire in British India, the same freedom from il interference as the Catholic Church enjoys in England.* Holland no longer lerates the Portuguese *Padroado* in her large East Indian possessions. ortugal has had to abandon her pretensions to the same in Japan. When Brazil became independent of Portugal, the Portuguese king had to renounce his *Padroado* in that country. There is infinitely more reason why he should renounce his claims in this British possession and shew himself worthy of his itle of "Most Faithful," by an act which would prove that national prejudices and sentiments were subordinated by him to the welfare of the Church. It is better for him to make this renouncement now, than to wait for the humi- iation of being forced to do so by a Protestant Government. The time will come : Catholics are becoming a force in England : soon we may see diploma- ic relations established with the Holy See, and *our* national prejudices and sentiments will come into play.

In the whole world at present there is not another Government which puts forward claims so preposterous as those of Portugal. In the embarassment hich they have caused, and the injury they have done to the Church, they re- nind one of the old conflicts regarding the claims of the rulers of Sicily Garibaldi among their number) to be perpetual Legates of the Apostolic See.

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There as in the case of the *Padroado*, an old privilege, granted in certain circumstances for certain purposes, were abused for other ends in circumstances entirely different. Just as the *Padroado* has been claimed as an eternal and immutable privilege attached to the rulers of Portugal, so the Sicilian Legation was tenaciously clung to by the rulers of Sicily. It matters not to the advocates of the theory that the Portuguese dynasty has changed more than once. In Sicily did not Francis II, Garibaldi and Victor Emmanuel all equally claim to be "perpetual Legates of the Apostolic see"? The trouble lasted for over 150 years, and Pius IX in 1864 put a final end to it by abolishing the Sicilian Legation for ever. It is now some 150 years that the *Padroado* has ceased to be useful, and we have had enough trouble during that period. The time seems appropriate for its final extinction.

I hope that nothing I have said will be interpreted or misinterpreted to imply any disrespect to the Catholic nation and clergy of Portugal or the good Catholics and clergy of Goa. I have no wish to wound their susceptibilities. My remarks are intended to refer solely to the Portuguese ministry, tainted by uncatholic principles, and the interested busybodies who try in India to pass themselves off as the representatives of Goanese Catholics. Leo XIII has recently said* that the Portuguese nation "has deserved well of the Apostolic See.' Would that we could say the same of its Governments. As in the 15th century so in the 19th the *Padroado* might have been the glory and not the disgrace o Portugal, had not the wishes of that Catholic nation been thwarted by its rulers But the opportunity has been missed. France, Italy, Belgium and othe countries have sent their sons to do the apostolic work where Portugal failed, not merely so, but to care for the abandoned children of Portugal.

If Portugal now wishes to resume her ancient place as a missionary nation, it must be by dropping all question of *Padroado*, and zealously co-operating with the missionary efforts of other nations. I am convinced that if the trammels of the *Padroado* were once shaken off, the Goanese clergy in British India would find themselves in a far better position than they enjoy at present, and better able to do justice to their vocation. At present many of them are in a difficult position; their hands are tied and their efforts for good are powerless or unappreciated, and they fail to command the respect which is due to their character. Their isolation and the lack of organisation in the missions till lately or even now under the extraordinary jurisdiction of the Archbishop of Goa, leave them helpless in difficulties, and often at the mercy of certain laymen, whom they are powerless to control. Many of them have to groan under evils which they cannot remedy. If they took their place in our ordinary missions, backed by the moral support and assistance of experienced superiors within reach, they would enjoy a position of respect which is not possible for them at present. Of course I do not expect that all the Goanese clergy will agree with me in advocating the abolition of the *Padroado* in British India. Many of them, especially those who have never left Goa, men of excellent intentions, conscientiously believe that this institution is an instrument of good, and even now capable of development in the interest of the Church. All allowance must be made for these patriotic sentiments and associations, which are natural and proper, where there is no intention of putting patriotism above religion, or of making a lay Pope of the King of Portugal. But a consideration of the deliberate opinions of so many apostolic prelates and holy missionaries, and the numerous documents in which successive Popes have clearly expressed their sentiments on the matter, ought, I think, to carry conviction into the minds of these good men, who, generously abandoning their prejudices, might come forward to co-operate with the missionaries of other nations, who are waiting to welcome them as colleagues. What good has the Portuguese Government ever done them, that they should be proud of their chains? Is it likely to treat them better than it has treated their Archbishop? Already we have a good many excellent Goanese clergymen serving in missions not subordinate to Goa, to say nothing of numerous others of Goanese descent. Others have come from Goa to enter the religious orders which the Portuguese Government destroyed in its dominions. Vocations to the priesthood appear numerous in Goa, and were it not for the restrictions of the *Padroado*, that ancient place might once more become a nursery of Apostles, and revive the past glories and extend the influence of Portugal in a way which would rejoice all Christendom. We laugh at the affectation of the agitators who pretend that the labours of St. Francis Xavier, of Blessed John de Brito, of Robert de Nobili, of Joseph Vaz, not to mention others, are an exclusive glory of Portugal. They are the common heritage of the Catholic world, and the missionaries of France and of other countries, who now labour in India, are the modern representatives and successors of these apostolic men. St. Francis Xavier was not a Portuguese, nor was Robert de Nobili, and Joseph Vaz, if he came to life, would be the first to recognise in the Oblates of Ceylon the continuers of his labours, and to disown Alvares and his schismatic crew.*

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* Letter to the King of Portugal, 6th January 1886.

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* Joseph Vaz was a native priest of the Oratory of St. Philip Neri at Goa. The Church in Ceylon is forever indebted to his heroic and apostolic labours between 1690 and 1711, during the terrible persecution carried on by the Dutch on one side and the king of Kandy on the other. He brought back to the Church most of the Catholics forced into heresy by the Dutch, and he baptised and added to the Church more than 30,000 heathens. If it were not an outrage on his memory, it would be droll to find the *Anglo Lusitano* and such like quoting the name of this holy man in the interests of their agitation.

I should also be sorry if any of my remarks were thought disparagin to the good Catholics in Portugal and Goa and those who bear Portugues names in British India, many thousands of whom passed to the jurisdictio of the Vicars Apostolic as soon as they were sent by the Holy See to suppl the wants caused by Portuguese neglect and inability, and have ever since be thankful for their severance from the *Padroado*. I am not likely to gi offence to these; by my readers in Calcutta and Bombay and other places, many Portuguese names will ever be remembered, as associated with many religious or charitable institutions of which we British Catholics in general ar reaping the benefit, The *Padroado* may perish, but the name of Portuga will not. It will ever be recalled to us by the good deeds done in our ow times by faithful men, who have never been subjects of the *Padroado*, b whose names indicate the ancient connexion of their ancestors with Portuga I imagine that in Portugal few Catholics appreciate the real bearings of th Concordat question. They are glad to see their Government apparently takin an interest in missionary work, but we, whom local history has made cautiou will not be moved by fair words. We wait for deeds to correspond. It rumoured that the Portuguese Chambers have refused to vote the pro endowments for the Portuguese Bishoprics, &c., in British India, and *Anglo Lusitano* (3rd March 1887) says sadly that these* Bishops "have n yet left the beautiful banks of their poetic Tagus." The history of the p tells us of numerous Portuguese Bishops appointed for India, who never we able to set foot in their dioceses.

Fortunately for us, there can be nothing of this sort under the Bishops ap pointed freely by the Pope, but Portuguese circumlocution and negotiations a

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The fictitious agitation which is kept up in favour of the retention of some vestiges of th *Padroado* in Ceylon has nothing whatever, even of sentiment, to justify it. The history of the depe dence of some 3000 Catholics out of 205,692 in that Island on the extraordinary jurisdiction of Go lately abolished, is not very edifying, but it is instructive. If the *Padroado* has lost Ceylon and i 205,692 Catholics it has only itself to thank. From the time of Father Vaz the Island was served b Goanese Oratorians and formed part of the diocese of Cochin, one of the old dioceses of the *Padroad* Portugal had kept that See without a Bishop from the beginning of the century (it is without a Bisho still, though one is said to have been lately nominated !) and so in 1836 Gregory XVI severed the islan of Ceylon from the diocese of Cochin, and appointed one of the Goanese Oratorians, Father Vicente d Rosario, to be the first Bishop and Vicar Apostolic. Just at that very time the Portuguese Govern ment suppressed the Oratory of Goa and confiscated its property. The Oratorians in Ceylon, all of whon were Goanese, threw off the yoke of the *Padroado* and accepted the new arrangements. They obeyed the Pope, and further had no reason to regret the change, when the "Patron" had done his best to destroy them and by his own acts had more than justified the step taken by the Pope. All the Catholics of the Island followed suit. Thus the *Padroado* ceased in Ceylon, and the "Patron" had only to thank himself. But there are always a few people every where who will never be satisfied; the first Vicar Apostolic and his successor, both excellent prelates, were natives of Goa, and a handful of Burghers (Eurasians) at Colombo objected to them on this account. and petitioned the Pope for an English or Irish Bishop. Their request was naturally impossible to grant, and so a few years later, in the days of the schism, they put themselves under the Archbishop of Goa. Thus, their opposition, which began in objecting to the Goanese, ended in their placing themselves under the Goanese! They remind one of the man, who was asked what. his politics were, and replied: "Always against the Government, whatever it may be." The origin of the few little Padroadist congregations in the north of Ceylon was even less creditable. They were formed by a bad priest who for good reasons was suspended by his Bishop. He rebelled and created a schism which was followed by a few villages. The Concordat of 1857 permitted these malcontents to be under the extraordinary jurisdiction of Goa till it was abolished throughout Ceylon in January this year (1887).

* For the Sees of Damaun, Cochin, and San Thomè (Madras).

terminable as those of the Chinese, are among the minor disadvantages of the *Padroado.* Undoubtedly if the Portuguese King is allowed to exercise his patronage in the case of the Bishops of Damaun, Cochin and San Thomè, it s to be hoped that there will be no delay in filling up vacancies which may cur. The presence of the Bishops will certainly tend for good, and do much ameliorate the evils of double jurisdiction. During recent years we have seen some four or five Portuguese Bishops in India, in the Archbishops of Goa and their coadjutors; and all have deplored the evils to which I allude, and ave given proof of their anxiety to remove them. If however the past is to e repeated, and Portuguese circumlocution keeps the Sees without resident ishops for prolonged periods, we can hardly expect much improvement on the resent state of affairs.

So far the immediate effects of the Concordat of 1886 have not been leasant to contemplate. It has produced a great deal of irritation. On he one side many good Catholics, who desire the progress of religion in his land, are depressed to see so many restrictions on the liberty of the hurch now imposed or perpetuated. On the other side the Padroadist tors are in fury, as they wish for nothing but the Indian Church to be livered over to them, bound hand and foot. All this might have been voided had the British Government, the principal culprit, put an absolute to on the claims of the Portuguese Government. Had this been done all ncerned, Portugal included, would have recognised that further discussion as useless, and the Pope would have been left free to make His own arrangements, which would have been accepted without a murmur. We should ave been spared the present depression, ill feeling and discussion, and the gitators would have retired to their proper obscurity. They hold out hreats of schism. These threats are idle in the present day. Let the schism ome: they will soon get tired of it.

But whatever happens, and whatever may be our feelings, we shall always ccept cheerfully all the arrangements which the Pope may make, hoping for better days, and knowing that the Holy Father has done for us all that in His present difficult circumstances He was able to do; and such of us as may be placed under the jurisdiction of the Portuguese Bishops and missionaries, though we may regret the change, will prove ourselves to be their most obedient subjects, ready to aid them to the best of our ability.

EXTRACTS FROM THE "MADRAS TIMES," FEBRUARY, 21, 1887.

In our issue of the 16th instant, we published an able letter signed "*British Catholic*," in which attention was drawn to the strange practical results of a Concordat made in June last between the Pope and the King of Portugal, with respect to the Roman Catholic Church in India. We have since ascertained that the facts set out by our correspondent are substantially correct, and it is absolutely true that, so far as this treaty has any force or value, the King of Portugal now reckons amongst his possessions (his [illegible] the churches, chapels, schools and other establishments in Bombay [illegible] many other parts of India.

* * *

But whilst we refuse to be scared by the notion that the Concordat goes the length of creating a substantial encroachment by the King of Portugal upon the territorial power of England in India, we do th[illegible] a matter in which the Imperial Government ought to have had, an[illegible] to claim, a distinct voice and control. When the Liberals were in power, and Lord Ripon —who was, of course, conversant with the whole question, and had learnt on the spot all its bearings—was at the elbow of Lord Kimberley and Lord Granville, Mr. Gladstone's Ministry would not permit the King of Portugal to have any authority in the nomination of Bishops within British territory. This veto was acquiesced in by Portugal, and the Anglo-Indian Hierarchy was about to be established without any concessions to the King of Portugal, and the vexed question of the *Padroado* would have been for ever laid at rest. But June 1885 saw the Gladstone Ministry go out, and their successors in office allowed the Portuguese Ambassador to re-open the matter. The result was the compromise embodied in this Concordat--an arrangement by which two foreign potentates, with the full knowledge, and the express or tacit consent, of an English Cabinet, claim the right to interfere in affairs ecclesiastical in one of the dominions of the Sovereign of the Realm of England.

We know that our Church of England Articles are out of date now, and hat the English Statute relating to ecclesiastical titles does not run in British ndia. And we may smile as we trace in the Gallio-like conduct of the lisbury Cabinet the logical development of the principle by which our Roman holic fellow-subjects have heretofore claimed and obtained exemption from e disabilities formerly imposed upon them. Three hundred years ago it was xpressly declared by a King of England, "being by God's ordinance, Defender

[illegible] r of the Church," that the Bishop of Rome"
[illegible] f England. We have changed all that, and it
[illegible] is attached to such questions, that an English
[illegible] Catholic ex-Viceroy be at their side, see any
[illegible] " and the king of Portugal figuring as rival
[illegible] l jurisdiction in British India.

[illegible] mportance to the Government of England, and
[illegible] pal See as to allow of its being thrown as a sop
[illegible] may be, and apparently is, a matter of very
[illegible] on of no inconsiderable number of our fellow-
[illegible] if any one question the right of our correspon-
[illegible] se who think with him, to claim the inter
[illegible] nt in this matter, we would [illegible]
[illegible] them a hearing, since i[illegible] the duty of the
[illegible] to reconsider the Concordat in its practical
[illegible] nber of Roman Catholics s[illegible] in the Army
[illegible] ce in its official list to Cha[illegible] of the Chur
[illegible] s to their salaries. One of two reasons must
[illegible] action. Either Government, in the [illegible]
[illegible] ers, thinks it good for them, and, a[illegible]
[illegible] e State, that they should be provided with spi
[illegible] s; or else, without reference to the patern
[illegible] the right of the English soldier in India to have
[illegible] s one of the conditions of the exile his service
[illegible]. If the first of these two reasons is the correct
[illegible] has no right to allow the appointment of these
[illegible] ds of the King of Portugal? If the second rea
[illegible] oman Catholic members of the army should be
[illegible] Steps should at once be taken to ascertain ho
[illegible] *ritish Catholic*" obtain in our Army. If it
[illegible] that it will be found) that our soldiers dislike th
[illegible] plains, nominated by the Portuguese Govern
[illegible] aplains of the English official establishment
[illegible] interpose. And even if a majority is found
[illegible] cted that it is a step of doubtful wisdom to allo
[illegible] acquire the prestige and influence over
[illegible] en enjoyed, and so beneficially exercised, by
[illegible] f our Army when they have been themsel
[illegible] of England.

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AN

ANALYSIS

OF

SULLY'S OUTLINES OF PSYCHOLOGY.

CHAPTER I.

In what sense is Psychology a *science of mind*?

(1.) That it deals with events or processes which agree with the phenomena of the external world in exhibiting orderliness or uniformity of succession, and so are susceptible of being brought under definite laws.

(2.) That it has in its own instruments and methods of research, when properly understood, adequate means of ascertaining these laws.

What is Psychology?

Psychology or mental Science is our general knowledge of mind reduced to an accurate and systematic form. As a science Psychology is concerned only with the phenomena of mind, with mental states, Psychical fact or whatever else we choose to call them, But this definition of Psychology supposes the definition of mind.

What then is meant by *mind*?

We may provisionally define it in a general way:—That it is something which has the properties of feeling, thinking, and willing in their different forms or phases. But observe that this definition consists of two factors:—

I. The something which possesses the properties, the acts and states of feeling, thinking and willing in their different forms,—*feeling* iucluding states of pleasure and pain, sensations, fears, hopes, desires &c., *thinking* including perceiving, remembering and reasoning. Now mind may be conceived as any one of these factors apart from the other.

Thus we may accept it as self-evident that the something which thinks &c., is a substance or permanent something which remains essentially the same under all changes of acts, and we may state and define *mind* as the substance or permanent something which has the properties of thinking, feeling and willing, which remains essentially the same under all changes of [illegible] It is also called the self, soul, Ego as being that which is [illegible] essential and permanent in every person, and this subs[illegible] permanence of mind within us is also called our personal identity. This is called a metaphysical definition of mind, because substance is not itself an object of experience (*i. e.* we cannot touch nor feel.) but something the conception of which can be arrived at only by an effort of metaphysical thought or reasoning (*i. e.* reasoning as to what is outside of possible exerience) and mind in this sense is called by Kant *noumenal or intelligible mind*, *i. e.* what is not an object of experience but can be grasped only by *apriori* rcasoning ; and when it is made a dispute whether mind exists or not, it is mind in this sense that is meant, viz. mind as a special permanent something remaining essentially the same under all changes of states, or acts.

For Materialists say that feeling, thinking &c., are states or functions of the matter of the brain ; and as the matter of the brain is being continually consumed and replaced, there would be, according to materialism, no such thing as mind in the metaphysical sense of a special permanent substance or soul.

II. But seeing that what is really manifested in experieuce is not the supposed substance but the feeling, thinking and willing, mind may therefore be defined as the aggregate, sum, or series of feelings, thoughts, volitions &c., which make up the consciousness of the individual. Now it is called the empirical or experiential mind, because it is only the phenomena or states nter into experience ; and the people called Posi- nostics and also Materialists do not admit of any on.

chology is properly an empirical science and not a taphysics, (*i. e.* it deals only with phenomena or thos and processes of things which manifest themselves to our scious experience and not with the substance of things which is beyond experience. Metaphysics, on the contrary, goes beyond experience and endeavours to explain how experience is produced.)

Thus Psychology remains satisfied with the empirical definition of mind, and may therefore be itself defined as the science which tries to obtain a knowledge of the origin and composition, conditions and laws, of feeling, thinking and willing in their various forms and phases, and reduce that knowledge to a systematic form. Mind, however, has to be distinguished from matter and that may be done in this way, viz :—

(*a*) *Mind* is the acts or states of feeling, knowing, willing &c, while *matter* is that which is felt and known, and therefore external and distinct from mind itself.

(*b*) Matter or the phenomena called material have the form of *extension*, *i. e.* they occupy space and lie outside each other in space, whereas mental phenomena have the form of *time* only, *i. e.* occur in succession but do not occupy space, nor lie outside each other in space.

But the phenomena called mental are known to science only in connection with the phenomena called material constituting the body, or organism.

What then *is the relation of mind and body.*

There are 3 hypotheses regarding this :—

Materialism assumes that mind is only a function of the brain, that thought and feeling are only results and products of certain combinations of matters in an organised form, that when matter is sufficiently organised in animal bodies and brain, then it begins to feel and think by a property inherent in itself, so that feeling and thinking are as much properties of matter as heat and colour and movement; mind being only a [illegible] state of matter [illegible] apart from the material body.

II. *Spiritualism* is that mind and matter are independent things; that the substance of which the feeling and thinking are the properties is essentially different from the substance in which the phenomena called material are the properties and that the mental substance is temporarily located in the material body and uses it as an organ of communication with the external world, yet it has no dependance upon matter and may exist apart from the material body.

But the above hypotheses are both metaphysical, and psychology being an experimental science, wants a conception of the relation between mind and body which can be demonstrated experimentally.

III. *Hypothesis of correlation or co-variation, or concomitance of mental and organic states.*

That there is such a correlation between psychical and physical states; that for every act or state of mind called mental (i. e. every act or state of consciousness) there is a corresponding change in the state of the material organism, i. e. for every act and change of thought, feeling, and willing, there is a corresponding physical change in the organism; and for every different mental state (idea or feeling) there is a different state of organism.

Thus all mental processes or operations are connected with actions of the nervous system. The most abstract thought is accompanied by some mode of activity in the brain-centres.

Observe, however, that this hypothesis does not assume any metaphysical knowledge as to the substance of mind. It is consistent with materialism and spiritualism, and therefore Sully accepts this as the proper experimental statement of the relation of mind and body. But we must always remember that though the mental state may correspond to a bodily state, yet the two states are essentially different things.

hat are the different methods of stu g mind
here are two distinct methods :—

. *The subjective or Introspective od* which consists in
ng away attention from objective external things and
ng it inwards upon the subjective st tes and processes of
nind itself and observing them as they go on within oursel-
r as they are afterwards reproduced in the mind in the form
mory. This is called *subjective,* because it consists in directly
the states and the acts of the subject or mental prin-
us. This is called *introspective,* because it consists
wards upon the phenomena of mind itself instead
ards upon external things.

ective method which consists in studying out-
companiments (physical processes), and
can infer and understand the
accompanied or produced
states of men in their
words and actions—those
gs, traditions (in the ideas, work past in
have left behind them. Thus works o , language,
ythology and religion embody and preserve, as it were the feelings, thoughts and characters not only of the individuals who created them, but also of the societies, nations in which they were produced, and social and political history of races and nations is an accurate objective reflection or embodiment of the mental power of the nation. Still further the study of Psychological processes which accompany or produce mental states throw an important light on the nature, laws and conditions of the mind itself. Hence a large group of mental sciences produced by the objective method—*Physiological Psychology* which treats of conditions and accompaniments of the mental states chiefly in brain-nerves and muscles ; the *science of sociology, politics and law* ; *Æsthetics* or philosophy of arts ; *science of mythology and religion* ; the *Comparative Psychology* or the science of the development of mind in animals and races of men. These all exhibit

the workings of mind in individuals, societies, [illegible] But neither method is complete in itself and each [illegible] supplemented by the other. For—

(1) It is only by the introspective method, that [illegible] observation of mental states in ourselves that we [illegible] know and understand what mental [illegible] and pro [illegible] are, and it is only from our understanding of our [illegible] states that we can ever come to understand those o [illegible] Thus the objective method depends on the subjective.

(2) But, on the other hand, by mere observa [illegible] own mental states alone, we should never come to k [illegible] is true of mind generally. Now science aims [illegible] universal and is not satisfied with what is t [illegible] cases only. Thus the subjective method [illegible] being supplemented by the objec [illegible] a difficulty peculiar to itself [illegible]

The *subjective* meth [illegible] culty of [illegible] drawing away attention fro [illegible] r to turn it inwards upon subj [illegible] states.

The *objective* method is attended with the difficulty of rea [illegible] ing in the mind of others what is true only of our own and judging other minds too much by ourselves *i. e.* the danger of assuming that people of remote countries and finer thought felt like ourselves. Hence the difficulty of understanding the mind of an ancient Greek, or Roman, or a modern African; and hence the frequent errors of past historians and novelists in interpreting the minds of remote ages, e. g. Shakespeare in his Grec [illegible] and Roman plays makes the Greeks and Romans think and speak too much like Englishmen of his own time, e. g. M. N. Dream. What is needed to overcome this difficulty is a peculiar power of imagination, or of constituting in our own minds thoughts, feelings and circumstances different from any we have ourselves experienced.

The general knowledge of mind—The knowledge of mental as well as of any other class of phenomena in order to be scienti-

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fic must comply with these conditions. It must comprise general knowledge *i. e.* knowledge of what is true generally of mental phenomena, their laws and conditions as different from the particular facts only. It must comprise a systematic classification of mental phenomena based on their general properties and laws. It must comprise a knowledge of their causes and conditions, because the science is above every thing a knowledge of the causes of things. Now the question of causation of the mental phenomena brings us back again to the phenomena with which mental phenomena stand in immediate relation.

The nervous system and its connection with mind :—

It may now be regarded as true that for every mental act or state there is a corresponding nervous change, and that every variation in the one is attended by the corresponding variation in the other. Hence any physical agency which will modify the state of nervous system (by exciting and strengthening) will produce indirectly a corresponding change in the mind by exciting, strengthening, or weakening the mental processes. And any agency which will directly modify the mental state (good or bad news, objects of fear and hope) will indirectly modify the nervous system and through that the whole organism.

The seat of organ of mental processes (mental life):—The brain is spoken of as the seat of mental life, because it is that part of the organism, the changes and states of which correspond directly with acts and states of mind, so that changes in the other parts of the organism affect mind only by first producing changes in the brain ; and conversely mind produces changes in the body only by first producing change in the brain. The brain is called the organ of mind, because it is by first affecting the brain that mind produces change in the body *e. g.* movements of the limbs and through them changes in the external things. Thus brain is the immediate instrument *i. e.* the organ through which the mind operates upon external things.

Localisation af mind-processes in the brain :—It would be an important result for mental science, if it could be proved that each mental process has its seat in a distinct part of the brain and if it were possible to determine particular part of the brain which corresponds to any particular mental process. This has been done. :—

(1) In the *law of sensations* to some extent, because following up the nerves which proceed from the organs of sense (ear, eye &c), we can find what part of the brain they enter, and we may infer that this is the part most directly affected by impressions on the organs of sense.

(2) *In the case of Voluntary movements* :—Experiments on animals have shown that particular parts of the outer convolutions of the brain, more particularly muscles and limbs, must therefore be the parts of the brain affected by the mental desire and we move these parts of the body. But these results only show that impressions enter the brain and that the moving forces leave it by the particular parts but do not tell us as to the seat of consciousness of intellect and feelings in their different forms. Phrenologists have pretended to find their seats in the surface of the brain for every mental process. But this is now discredited, and all experiments have failed.

Another important question of Physiological Psychology is the *quantitative relations of the mental and organic processes* *i. e.* what quantity of cerebral excitement or activity corresponds to a particular degree of feeling and consciousness or mental activity and *vice versa*, *e. g.* whether the mental state increases in direct proportion to the increase of the brain activity *i. e.* varies directly in physical state or in some other proportion *i. e.* one may increase in arithmetical progression and the other in geometrical progression.

Another question is the *threshold or limit* of consciousness *i. e.* the degree of physical activity necessary to be followed or accompanied by mental states. At a certain limit, consciousness will begin. Experimental investigations of this kind are called psycho-physics.

Another question of still greater importance is *how the varying conditions of brain-nerves and other bodily organs,* their fresh or exhausted, strong or weak, healthy or unhealthy conditions affect the mental states. For it may be accepted as proved that our power of doing mental work (our mental efficiency or energy) varies with the physical efficiency or energy in both its quantity and quality, as well as in its healthy conditions, *e. g.* mental power has some relation to the quantity (weight and mass of the brain.) Men of genius have always unusually large brains, and idiots small ones. But this is due probably more to its quality than to its quantity. The efficiency of the working power of the brain-centres will depend on their own mass, quality and structure, on the healthy conditions of the organism as a whole, on the comparative freshness or exhaustion of brain-nerves ; then they have more efficiency after rest than after long exercise.

And if it be true that particular mental activities have their seat in the particular quarters of the brain, then prolonged exercise of a particular kind of mental activity will produce exhaustion of a particular part of the brain, leaving the other parts fresh, and this would explain the advantage of the varying of mental work from one subject to another, because thereby we shall exercise the whole brain without exciting any part too much. And the fact that such a variety is beneficial seems to favour the view that particular mental operations are seated in particular parts of the brain.

The relation of psychology to other sciences :—

Psychology aims at a purely positive or experimental science and as such it stands on the same level with the physical and natural sciences. But among the natural sciences it is closely related to Biological sciences or sciences of life and living things —Botany, Zoology and Physiology ; and of these it is in a particular way related to Physiology or the science of the [illegible]esses of animal life, because mental processes are correlated [illegible] me way with organic processes, and the connection between [illegible] is perhaps the greatest problem of experimental science of [illegible].

Hence for part of its sphere Psychology will coincide with [illegible]ysiology, and in part it will go beyond it.

All the sciences are however subject to Psychology in the sense that all the sciences are so many forms of knowledge and therefore involve the exercise of senses, nerves and brain, and mental processes which are the sphere of Psychology.

Distinction between Practical and Theoretical sciences :—

Theoretical sciences are those which investigate the causes and nature of things without regard to practical application. *Practical sciences* are those which investigate what are the forms, rules of action, including—

(1) The forms of action that are best for the attainment of the desirable ends, e. g. Logic investigates the form of thinking, most conducive to the attainment of truths ; Politics and Law are those forms, most conducive to the attainment of the order and happiness of society.

(2) And the form [illegible] action that are right and good in themselves, independent ends ; *e. g.* Ethics or moral science.

Thus the *Theoretical* science investigates what is true, and the *Practical* what is best. The one investigates what is, and the other what should be.

A. But the practical sciences are based on theoretical, and thus Psychology is the basis of a number of practical sciences aiming at guiding or influencing the thoughts, feelings and conducts of men. Thus Psychology as a whole should be a guide to the best methods of education in its three departments corresponding to the three functions of mind, viz to *knowledge* giving intellectual or scientific education, to *feeling* giving aesthetic education or culture of tastes for arts, music, painting and poetry &c, to *willing* giving moral and religious education.

B. Special branches or departments of Psychology form the basis of special practical sciences.;—

Psychology of intellect or function of knowing affords the basis of Logic or the right regulation of reasoning processes—in the pursuit of truth.

Psychology of Rhetoric or the art of conveying knowledge and conviction to the mind of others.

Psychology of feeling affords the basis of aesthetics or [illegible] th science of the beautiful in nature and art—the power of discerning and appreciating what is good and beautiful in nature and art.

Psychology of will affords the basis of ethics or the science which determines what is right in human actions.

Psychology of politics determines what is most conducive to the order and happiness of society, e. g. Law and Jurisprudence. &c.

CHAPTER II.

MENTAL OPERATIONS AND THEIR CONDITIONS.

Mental phenomena are known by [illegible] of [illegible] names such as *states of mind* or states of *consciousness*, or of mental *processes* or *operations* (since they are phenomena [illegible] having a certain duration and a succession of parts.) But in [illegible] mental process we can sometimes distinguish the result or the product of the process e. g. perceiving is a mental process and percept is a mental result of that process.

Psychological analysis is what distinguishes the different states and processes and enters into the complex of mind in such a way as to classify them and discover their conditions and laws, their uniformities of succession and coexistence.

Threefold divisions of mind—The three factors of every mental operation. It is now agreed that there are three fundamental functions which are not so much distinct processes however as factors which would go to the making up of every mental process. *Feeling* or the mental state immediately corresponding to a state of the organism and including sensations or states of consciousness produced by the actions of external things on the organism, and *Emotions* or states springing up within the mind itself by interaction or intermingling of previous mental states—constitute the materials of thought (that which we think or are conscious of), for even external material things are known to us only through the medium of feelings which they produce in us, so that feelings are, as it were, materials out of which our thoughts or ideas are made.

Knowing, intellect or cognition is the power or act of becoming conscious of these states of feelings and supposes a distinguishing or discriminating of different units of feelings and their agreements and differences. *Cognition* or *intellect* is essentially a power of discriminating between different units of feelings, and it is only by discriminating and comparing different units that we can become conscious of things, so that there can be no consciousness without a plurality of units. For it would seem that it is only in the change or passing from one state, unit or thing to another that we can become conscious. Hence one of the meanings of the Law of *Relativity of knowledge* is that knowing requires a plurality of units or objects and consists in a discrimination of their relations *i. e.* their agreements and differences.

Willing or Volition is the faculty of activity and change, the most elementary form of which seems to be the power of turning the intellectual attention from one unit or object to another, so as to discriminate their differences and agreements and thereby know them more clearly. In more complex and derivative form, it includes of course power of moving the muscles and limbs and performing external actions for realization of ends.

Now every full concrete process of mind seems to include these three factors :—(1) *Feeling*, in some form, as the material of which we are conscious ; (2) *Intellect* or process of discriminating different feelings or units of feeling, either coexistent or successive in order to become conscious of them ; and (3) *Volition* or the power of turning attention from one feeling or unit of feeling to others in order to discriminate and become conscious of them. In connection with this question, observe :—

(*a*) That though these three things seem to be present as factors in every consciousness, yet one may be more *predominant* than the others, so that a particular state of mind may be predominantly *sensuous* or emotional, and the element of passive feeling may be on the ascendant e. g. in the enjoyment of a sweet taste or smell or in a state of terror. The factor of intellectual discrimination may be predominant e. g. in solving a sum or problem or closely observing or comparing things ; or the factor of volition, or voluntary activity may be predominant e. g. in resisting a temptation, so that a maximum of one foctor will be accompanied by the maximum of the others, but none of them can be entirely absent in any conscious state. But from the above difference of relative degree, we treat of them *separately* and call them the three divisions of mind—*Feeling, Intellect* and *Will.*

(*b*) And in different characters one factor may be habitually more predominant than the others, and thus gives a predominantly *emotional, intellectual* or volitional (active or energetic) colouring to the person's character. Thus some persons live largely in sensations and emotions, others in thought and reasoning, and others in action ; and the strength of the emotional nature will give a corresponding emotional colouring or character to intellect e. g. it will favour poetical imagination ; and exceptional power of intellect will give an intellectual chracter even to the emotions e. g. feelings of truth consisting of scientific curiosity &c. will predominate.

(*c*) That feeling is predominantly a passive state *i. e.* a state produced in us not by voluntary power of our own e. g. sensations are produced by the action of external things that will be of course purely active, being the faculty of action or change ; and that intellect may be said to be passive-active *i. e.* to involve the passivity or activity, viz, *passive* in so far as it depends for its materials on passive impressions or feelings of some kind, and *active* in so far as it is a form of activity controlled by will.

(*d*) And as the three functions differ so much in relative degree or predominance, they may be treated as fundamental divisions of mind, or as the three fundamental faculties of mind; and that each of these fundamental faculties of mind assumes different forms which may be called secondary faculties. Thus *feeling* appears in the forms of the different sensations, viz, taste, smell &c. and of the different emotions hope, desire, fear &c.; *intellect* in the different forms of perceiving, imagining, reasoning &c; and *willing* in the forms of attention, choice, movement &c.

It must not be supposed, however, that these different forms, *i. e.* so called faculties or forms of the same factor are fundamentally distinct from each other. e. g. that the different forms or faculties of knowing, perceiving, reasoning &c. are things essentially different in kind. Rather merely they are so many different modifications or applications of the same fundamental process of discrimination, and the same so called faculties fall under feeling and knowing.

Note—It is a fundamental error to conceive mind as a bundle of detached powers or activities, some how standing side by side, and exerting no influence on one another. Rather all its faculties are only modifications of the same fundamental mental activity.

The essential element contained in all the intellectual operations:—

Intellect or cognition in all its different forms of perceiving imagining, reasoning &c. can be shown by analysis to consist essentially in a process of discriminating or discerning relations between different units or things and the fundamental relations thus discriminated are those of *difference* and *agreement, likeness* and *unlikeness.* Observe Sully uses *discrimination* especially for discerning differences, and *assimilation* for discerning similarities.

Note—Bain makes retentiveness or elementary memory an ultimate element of intellect, because in passing from one unit of feeling to another we must retain always the first one in the mind in order to compare and discriminate it from the new one and thereby become conscious of their likenesses and differences.

But Sully says—This power of retaining impression is rather a *condition* of knowing, or coming to know and continuing to know than a part of the active knowing process itself. Hence retentiveness a condition of the growth and development of intellect and thereby of mind. The whole of Sully's book is a treatise on the development or evolution of mind.

Hence the *growth of intellectual operation.* If we must regard the different intellectual processes of perceiving, reasoning &c. as only modifications of the same intellectual function or conscious discrimination, then these different processes may be regarded as so many grades or steps of the fundamental processes rising above each other in degrees of complexity.

Then we shall have :

(1) In the lowest grade—semi-cognition or discrimination of units and kinds of sensations or sense-impressions—feelings impressed by external things.

(2) In the *next* grade—perception which will be found to consist essentially in the discriminating of a cluster of units or qualities constituting an individual concrete thing from other individuals.

(3) In *the higher grade*—thinking or reasoning which is essentially the discriminating of the relations and connections of classes of things.

The chief object of psychology is to discover the *laws of mind* or general truths to which mental phanomena conform ; and these will include general truth,

(1) as to the relations and connections between certain mental phenomena and other mental phenomena.

(2) as to the relations between mental phenomena and phenomena of organism and external world, and the most important of their laws or truths will be truth as to how mental phenomena are produced *i. e.* their causes and conditions, because science is essentally finding the causes and conditions of things.

And observe here (*a*) Mental laws like other laws will be a higher and lower degree of generality—general and special laws *i. e.* some will apply to a particular kind of mental phenomena, others to general e. g. the law of the factors—the law of relativity or contrast.

(*b*) The cause of a thing when fully stated is never a single antecedent thing or circumstance but always a sum of several or many antecedent things or circumstances called *conditions,* because the production of an effect always supposes interaction between several different things (for without interaction there can be no change and without change no effect.)

These antecedents again w, x, y, whose interaction produces the effect z, are themselves produced by other antecedents r, s, t, &c. Now those which directly produce the effect z, namely w, x, y, are called the proximate conditions or causes of z, while those again by which w, x, y are produced namely r, s, t, are called remote conditions or causes of z.

Thus to analyse a process or state of mind z, means essentially to assign its conditions or state the things and circumstances, the combination and interaction of which produce it—both its proximate conditions w, x, y, and as far as possible, remote ones r, s, t.

And among the conditions of mental operations we may here refer to——

(*a*) Degree of attention which means essentially the degree of voluntary activity or exercise of will (effort) applied in turning intellect from one object or class of objects and fixing or concentrating it upon others to arrive thereby at a clearer discrimination and fuller consciousness.. Hence clearness of intellectual operations will depend on degree of attention.

(*b*) *The general condition of mind in other respects* e. g. an intellectual operation (in solving a problem) will be impeded. if the senses and emotions are strongly incited or the power of will is weak which is required for attention.

(*c*) *Nervous conditions.* Natural development in quality of brain and nerves, in particular the brain and its fresh healthy unexhaustive conditions.

Observe that *motor and sensory nerves* and centres would seem to be involved in every mental operation, *sensory* being bound up with sense-impressions and emotions and *motor* with the volitional activity involved more or less in all mental processes, and hence both will be combined in intellectual process of discriminating materials of feeling.

Hence mental operation will depend on the co-operation of the different parts of the brain, and hence the difficulty of localising them

One interesting psychological problem is *how individual minds differ from each other in their capabilities.* They may differ in respect of one whole phase or side of mind e. g. any emotional susceptibility in intellectual clearness and strength of will or in some particular secondary faculty of a particular division e. g. one may have a clearer perception of differences than of agreements. One may have more imagining power, and another more discerning power.

This leads to the question of—

The measurement of mental faculties. Whether it is possible and how ?

It is possible in most regions of mind only in a rough way.

(*a*) *The Quantitative aspects of mind* or aspects in which mental phenomena are capable of measurement are three :—

(1) In respect of *degree*—a sensation or feeling may be more or less vivid, an idea may be more or less distinct, a volition more or less strong.

(2) In respect of *duration*—which can be measured very exactly by external arrangements and in many cases.

(3) In respect of *number* of units or constituent elements entering into a mental operation.

(*b*) *Modes of measuring mental phenomena* in respect of degree, duration and number are two :—

(1) To apply the same degree of external stimulus under different circumstances and to different persons and compare the psychical results *i. e.* difference of the feelings produced as to vividness of feeling, distinctness of discrimination, and rapidity and duration of impression.

(2) To take the same psychical results, the same degree of feelings and find what differences are necessary to produce that degree of discrimination under different circumstances and in different persons. This is easier to carry out than the other method because it is much easier to fix upon the same degree of consciousness and measure the external applications needed to produce it than to measure the minute different degrees of consciousness e. g. we may take the smallest possible consciousness, its minimum value, and measure the quantity of the stimulus or application needed to produce it *i. e.* the minimum consciousness.

Sully concludes with remarking that the attempts to estimate the mental power by differences of bodily structure, e. g. shape of the head, have been unsuccessful and the attempts to localise them in and judge them by different folds or ridges on the surface of cerebral hemispheres have entirely failed, because the faculties of mind are not so distinct and independent of each other as Phrenologists assume, for mental results depend on the working together of many mental faculties as factors of the same process and hence on the co-operation of many or all the parts of the brain.

See remarks on the bearing of Psychology on Education in the book.

CHAPTER III.

MENTAL DEVELOPMENT

What does *Mental Development* mean ?

Our minds do not remain the same from the beginning, but go on growing and increasing in number, degree and complexity of their processes, and the complexity and collectiveness of the products of these processes (ideas and experiences) is what Sully means by *Development*.

Note. In relation to organism, we distinguish between growth and development. *Growth* means increase of size or mass or bulk. *Development* means increase in complexity and quality of structure. The two generally run on together but not necessarily, growth without development being an unhealthy manifestation, *e. g.*, in the brain. This distinction is partly applicable to mind also. *Mental growth* means increase in the stock of materials, stored up in the memory. Development means greater facility and dexterity in using its materials, *e. g.* for the purposes of reasoning, discovering, inventing and comparing.

In what respects does mental development take place?

If we compare a man with a child, we see that his mental operations, are (1) more *numerous* and *various* in kind, (2) More *perfect*, *i. e.* performed more rapidly and easily with more discrimination and accuracy. (3) more *complicate*, containing longer and more intricate processes. Hence they undergo development in number, perfection, and complexity.

Mental development appears again under two forms or aspects, viz—

(1) *Development of quality*—increase of the strength and vigour of particular faculties already present in a child.

(2) *Development of number*—increase or growth of new faculties latent in a child or present only in germ, so that there is a certain order in the unfolding of our faculties; some appearing and attaining maturity before others.

Hence *consider the development of the intellectual faculties.*

(*a*) *In respect of quality of particular faculties*; *i. e. their* strength and perfection. It assumes three aspects or takes place in three respects :—

(1) An old operation of intellectual faculty becomes more easy and rapid by frequent repetition or practice, requiring less and less effort, or attention. There is improvement of faculty in a particular direction.

(2) When old operations have been thus improved by practice, the new operations of the same faculty become easier, even when performed for the first time ; *i. e.* the facutly is *improved* generally, the additional power acquired in one operation is applicable to other operations also, *e. g.* memory improved by practice in school-training is found to be improved generally, to whatever purposes it be turned.

(3) General improvement in strength and vigour of a particular faculty gives increased power of exciting more complex, intricate and difficult operations.

(*b*) *In respect of number of faculties.* The development of the faculties in respect of number takes place according to a well-marked order thus—

(1) The process of attaining knowledge sets out with sensation which supplies materials which Intellect assimilates and elaborates according to its laws. We can know things only through the sense-impressions which they make on us.

(2) Sensation is followed generally by Perception or the power of combining or grouping together several sensations or elements of sensation into a percept or idea of a concrete thing e. g. several experiences of taste, smell, touch, colour &c. are combined together so as to constitute a percept of an orange ; sound &c that of a bell. A child has all these sensations, but the sensations come to it through different channels and it does not understand that all these sensations(properly the qualities which cause them) are combined in a single external object. When it begins to understand this, it is perception—the knowing of external things.

(3) Next comes Imagination in which whole groups of percepts or images of things already formed by means of sensation and perception are preserved and revived in the mind long afterwards. It takes two forms of—

(*a*) *Reproductive Imagination* which merely reproduces groups and series of percepts in the same form and order, as they were originally experienced—experience of our last Rail-way journey.

(*b*) *Constructive Imagination* which recombines or reconstructs the elements of previous actual sensations and percepts into new images and series of images different from anything actually experienced in nature before, *e. g.* a golden mountain, the battle of Hastings. The poetical faculty is necessary also in some measure to the historian.

Observe that Constructive Imagination derives its materials from Reproductive Imagination and therefore comes after it.

(4) Finally, we have *General* or *Abstract knowing*, otherwise marked off as *Thinking*. This includes the elaboration of the materials already prepared by perception and imagination, so as to further extend our knowledge by their means. It comprises :—

(*a*) *Conception* or power of forming concepts, notions or abstract *ideas* out of concrete percepts preserved and reproduced by imagination.

(*b*) *Judgment* or the power of discerning relations between concepts or general ideas, so as to know whether they are or are not, can or can not be, combined in same things.

(*c*) *Reasoning* is the discerning of relations between judgments *i. e.* relations between relations, so as to derive from them new judgments *i. e.* new knowledge of relations not previously known.

Observe (1) that all these stages are marked by an increase in complexity,—each new faculty deriving its materials from the previous ones. Observe, however, that Psychological and Logical complexity and simplicity are in inverse proportion to each other. Thus Psychologically a percept of an individual thing implies less complexity and refinement of psychological processes than a concept or general notion of a class, yet the concept logically considered is simpler than a concrete percept.

(2) That throughout the above series, there is a progress from outwardness (objectivity) to inwardness (subjectivity), *i. e.* these processes become more and more independent of

the presence of external things, and are conducted more and more within the mind itself by means of ideas or representations.

(3) That they exhibit a growth in *generality i. e.* a gradual transition from separate elements of knowledge as in sensation, and from seperate concrete individual things, as in perception, to what is true generally of whole groups and classes of things, as in judgment and reasoning which deal chiefly with general truths.

The above Sully thinks to be the natural order of intellectual development, but the other faculties of feeling and willing go on developing more or less at the same time in order peculiar to themselves.

Unity of Intellectual Development—Modern Psychology tends to the conclusion, that the above intellectual processes are only modification of the same fundamental processes of discrimination and assimilation, and differ only in complexity. Thus not only is the simplest sensation, a process of discrimination (of units or elementary differences), but the most complex reasoning is only a discerning or discovery of identities or differences among relations of things and relations of relations, so that the continuous unfolding of a faculty would seem to be the only increased complexity and refinement of the same fundamental function. Hence—

What are the conditions of development of *a mental faculty* ?

I *Exercise* of *that faculty.* Thus continuous exercise in the discrimination of colours develops greater powers of discriminating different shades of colour and then every exercise of any particular operation of a faculty develops the faculty in the direction of that particular operation, but not immediately in other directions, e. g. increased power in discriminating colours does not imply, to the same extent at least, increased power of discriminating forms or sounds.

So with regard to intellect as a whole, the continuous exercise of the lower faculties of sensation and perception will develop those lower faculties, giving greater power of observation and thereby greater, commanding materials from the higher faculties of thought and [illegible] but it will not by itself produce any development of the other powers without special exercise of these powers.

Hence though many educational reformers, would attach greatest importance to the cultivation of the powers of observation (by the study of natural history chiefly), this by itself would be very incomplete education.

Observe whence all the materials of thought are derived.

It will be seen from the whole sketch of development that the higher powers are all employed in elaborating further the materials supplied by the lower ones, and that all depend ultimately on the materials or data supplied by elementary sensations and work these up into intellectual products—knowledge; whence all materials of knowledge, according to Sully, are supplied by sensations.

N. B. Mc. Cush will argue, however, that there is another source of knowledge besides sensations which he calls *Intuition of* reason.

II. *Capacity of Retentiveness* is a *condition of development.* What does this mean ?

It is known, that every mental operation leaves a "trace" of itself behind in mind and brain, and a renewed operation of the same kind strikes into the trace of the old one and is thereby rendered quicker and easier; and with every repetition the trace established in the mind and brain gets fuller and clearer and more lasting, and not only makes the operation easy for the future, but produces a disposition, tendency or inclination to perform it over again or *reproduce* it. And thus the faculty is developed and perfected in the particular direction, and if traces are established and deepened for all the operations of a faculty, then that faculty will have undergone development as a whole. In this way past experiences are registered, as it were, and retained in the form of traces, ready always to be revived, *i. e.* (*a*) in *actuality* as the movements of walking, writing, working, (b) in the *fainter form of idea,* as our percepts, sensations, feelings &c. are preserved and revived in imaginations, constituting the materials of the higher mental operations which thus depend on the accumulation of innumerable traces of past activities, by means of which these activities can be revived. Then the whole process of mental acquisition consists in establishing traces in mind and channels or beaten tracks for nerve-currents in the brain and system. This power is called here *Retentiveness,* and is a condition of higher development.

Note. This persistence of traces underlies not only reproduction in the form of idea, but also that permanent tendency to repeat the same intellectual or physical operation which is called *habit.* Now the formation of habit is a growth in a particular direction. But it may be carried so far in a particular direction as to become an obstacle to the growth in other directions, and thus a barrier in the way of further development.

III. *Integration of materials and* their *products*—Laws of *Association* as a condition of development. Thought would be impossble, if the materials received remained loose and unconnected in the mind without any definite order and aggregation and were to revive in consciousness without any uniformity of order or connection. It is necessary, that there should be some force to unite them into permanent groups, aggregates or series, according to definite laws and cause them to be revived in imagination in permanent and uniform groups and series, instead of coming and going by chance without order.

Now there is such a unifying force among impressions and ideas, and it is called the Force of Association (because it combines or associates ideas into groups) and the laws according to which it operates are called the Laws of Association. Thus numerous elementary ideas of taste, colour, smell, touch &c are all received through different channels and at first seperated from each other, and at last permanently associated or fixed together into one complex idea viz of orange. The *concrete ideas* are again associated together into groups and revived in their order in imagination. And the higher processes of mind would be impossible without this integration of elements of sensation into complex ideas, groups and series; for without this all would be confusion within the mind (the conditions and laws of Association between ideas—the laws of *contiguity* and *similarity* are considered afterwards.)

N. B. The *feeling* and *willing* also go through stages of development corresponding somewhat to those of intellect.

Interdependence between or correspondence of intellectual, emotional and active development :—It must be remembered that the three faculties of feeling, knowing, and willing are not wholly independent or distinct processes, but rather correlative factors or elements of one and the same fundamental activity of consciousness, though one factor may be more predominant than the others. Thus the development of one factor will suppose or necessitate the more or less development of the others also, though in a less degree. (For examples see book.)

Correspondence of Mental and *Physical Development* :—Growth and development of the mind is accompanied by the growth and development of the brain and organism,—the growth or increase of bulk, size, and mass of nervous materials and development or increase of complexity and quality *i. e.* of the number of individual cells and ganglia or groups of cells and fibres connecting the cells with each other and with the organs, limbs and muscles—or in other words increased differentiation of parts. It is still uncertain, however, how far this parallel between mental and cerebral development extends—whether, for every new development of thought and feeling, there is a new development of organic cells and fibres. Thus brain attains almost its full growth in respect of size and weight at about the 7th year, but does not attain its full development until late in life.

Observe :—(*a*) that there is an order in the development of brain-organs—the basal or lower ganglia—the *Medulla oblongata, Cerebalum, Pons Varolii* and *Corpora Quadrigemena* attaining their development first and the Hemispheres much late in life.

(*b*) That there is connection between brain-development and the continuous exercise of the brain, viz. in mental work; and that the exercise of a particular part of the brain by a particular mental faculty, (that first stimulates from without) produces special *adaptation* of that part to that activity, and thereby a tendency to renew that particular activity even without the original external stimulus (retentiveness—habit, memory and imagination); and that different parts of the brain, when exercised in simultaneous or similar mental operations, acquire some connection with each other, and therefore some tendency to joint action, so that when one of them is stimulated to renew its operation, the other has a tendency to renew operation also. This tendency to integration of functions among different parts of the brain is the physical counterpart of the integration or association of ideas in mind.

Thus there is a general parallelism between mental and cerebral development, but it is still uncertain how far this parallelism extends. But the opinion previously laid down of a complete co-ordination between mental and organic states would imply a complete *parallelism of development. Mental development as adjustment to surroundings* consists in a continuous adjustment of mental states to external things and their order. Mental development is the production of mental states such in number and order as to correspond more and more to the number and order of things of external nature and their qualities and states—an adjustment of the mental faculties to discern and represent more and more the events and states of the external world gradually produced by the continual action of the external world upon the organism and mind. This is seen most clearly in the case of the intellectual operations. For the primitive elements of our knowledge—sense impressions—correspond to the qualities and changes of external things (as their causes), so that increased sensibility (development of sensation) means, that our faculties of sensation are being more and more *adjusted* or *adapted*, so as to receive and preserve finer and clearer impression of changes and qualities of external things. First we represent and understand them in their order of time or succession only, because we know them only through successive sensations (for we are hardly conscious of more than one sensation at a time). But our minds soon get so adjusted to the external world, as to represent and understand it under the form of space also, *i. e.* as a plurality of distinct things, existing simultaneously and external to each other. The same adjustment of inner to outer states is seen in feeling. For pleasurable feelings are soon developed in us in connection with those external things which benefit us, and painful feelings are developed in connection with those which hurt or injure us, and this adjustment is seen in willing also ; for tendencies are soon developed in us to ward off those things which injure us and obtain those things which benefit us. This is well seen in *Reflex-actions* and in the automatic actions acquired by practice. Hence the whole of our mental development may be described as an adjustment of inner to outer or mental to physical states, of ideas and connextion of ideas to things and connections of things.

Observe that the correspondence of mind to the external world is accomplished through the medium of nervous organism because external things act on the mind through the medium of organs of sense ; in-going nerves, and brain and mind acts on external things through the medium of brain, out-going nerves and muscles, so that the increased adjustment of mind to nature supposes increased development and adjustment of nervous organism, through which they communicate. Still it must be borne in mind that mental development is something altogether different in kind from physical development and proceeds by the laws of its own. Hence the two factors concerned in the production of mental development conditioned by environments will be the result of the interaction of the two factors—internal and external ; the external factor being the envirorment of that part of the ous organism and mind and acts upon them ; in other words, this action of external circumstances being upon the mental principles, and the internal facter being the reaction of mind and organism upon external circum stances.

I *The internal factor* consists at first of the mental principle with its primitive innate capacities, or powers of feeling, thinking, and willing, and whatever *innate* or *inherited tendencies* and dispositions it may have. Now the action of the external world upon the mental principle (through the organism) sets these powers and tendencies working and reacting in various ways, until by a continuous exercise these faculties become adjusted to external actions, so as to react in a more and more perfect way; and thus by action and reaction, new faculties and powers of reaction are gradually developed to feel and resist external forces and overcome them and apply them to our own purposes. As long as this power of reaction and self-adjustment to external circumstances continues, mind and organism go on developing ; when it declines, they begin to decline and so on.

Observe :—(*a*) that the internal factor includes both (1) correlated powers of feeling, thinking and willing-(2) inherited dispositions or hereditary tendencies to think, feel and act in particular ways, including—

(1) The hereditary tendencies to act in particular ways for our own good without being conscious of it, which are called *Instincts* including reflex actions. The instincts are more developed in animals than in men.

(II) The hereditary tendency to feel, think, and will in particular ways which we call *natural character*

(*b*) That other terms are used such as *Instinctive*, (*Innate*) and *Connate*—all meaning that these tendencies are not acquired in our own lifetime, but contained in the constitution of mind and organism, which we inherit from parents and ancestors. But the Evolutionist Philosophers like Darwin, Spencer &c explain them as gradually acquired "in the life time of the race" *i. e.* in the the course of many generations and gradually "registered" in the system and transmitted to us by inheritance.

Observe (1) That these inherited tendencies manifest themselves in different stages in the life of the individual, some earlier and some later; and their order probably corresponds to the order in which they were acquired by the race, just as the order of the development of the brain-organs in the individual seems to correspond to that in the race and (2) improvements in faculty acquired in one generation are transmitted to some extent as an innate increment (increase) of capability to the next generation.

II. *The external factor*—the physical and social circumstances which surround, act upon, and modify organism and mind from birth.

Distinguish two kinds of surroundings or *environments.*

(1)The *Physical* environments consisting in scenery, healthiness or unhealthiness of locality, plenty and want &c. These physical circumstances influence the organism greatly, and through that the mind. But even more important mentally (as far as mind is concerned) is

(2) The *Social* surroundings or environments in which one is reared and lives—the customs, examples, institutions and teachings of his family and the society in which he lives and the circumstances of his own position in that society—act upon and greatly influence the development of mind.

Society is an organism or higher unity composed of units correlated to each other, and acting and reacting upon each other so as to constitute a single whole, so that each unit or mind is influenced and moulded by the reaction of other units. Thus the child's intellectual *growth* and development is stimulated and directed by the thought and teaching of others and by the the ideas and customs of the society, his *feelings* by sympathy with the feelings of others, his *will* by the example and advice of others.

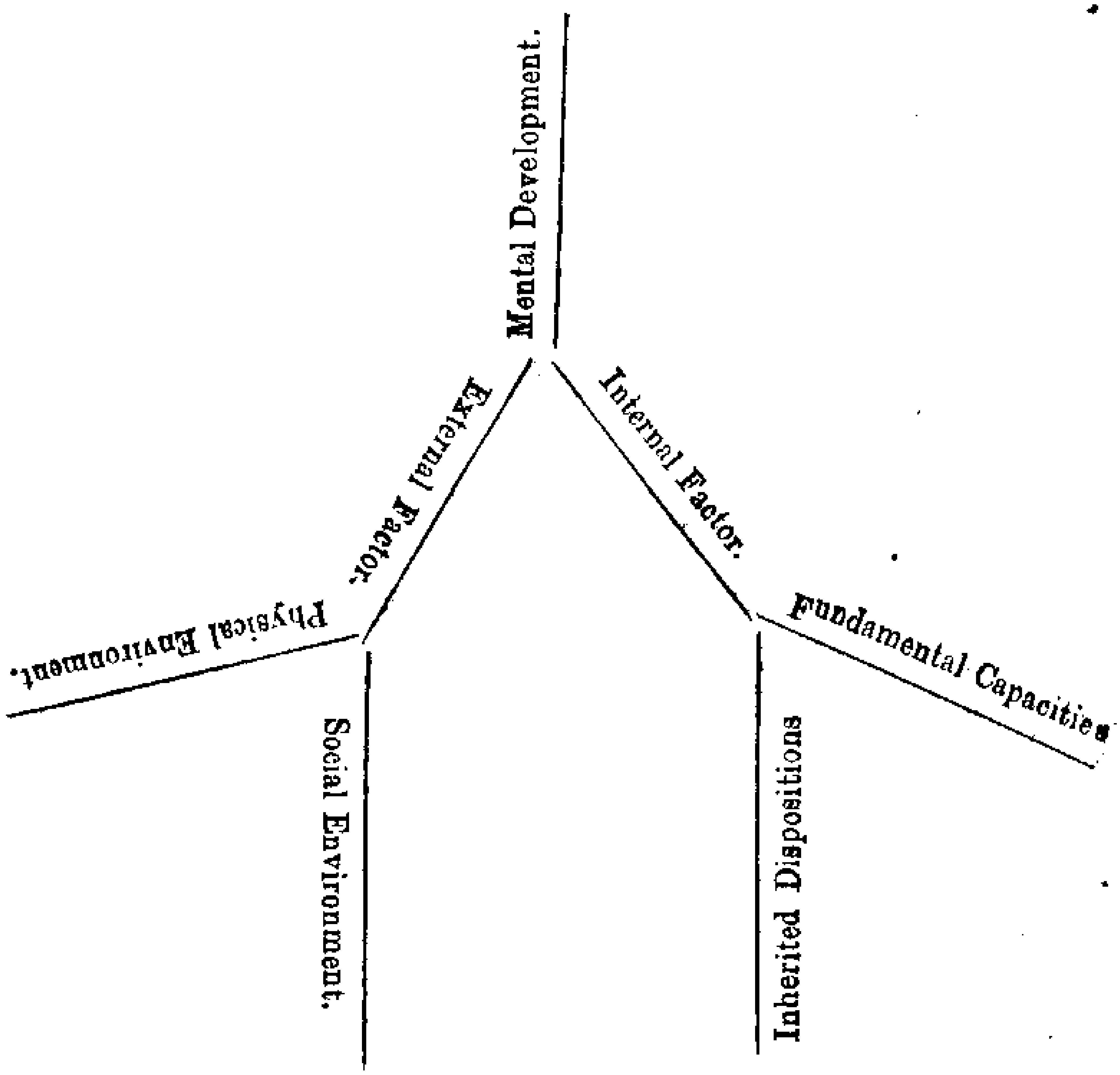
Of course the effect produced on him by the external circumstances will depend upon the reaction

e. g. a man of a naturally strong innate character good or bad will be less influenced by external circumstances than others, and the development and character finally attained is the resultant of two factors.

Observe :—(*a*) that the influence of society upon a mind is partly designed as in the cases of teaching moral and legal control &c, and partly undesigned as the influence of the examples, acts, thoughts, and feelings of others.

Mind would never develop beyond an extremely elementary phase without the action and reaction of fellow minds, *i. e.* without being a factor in social organism.

(*b*) The factors producing mental development may be represented by a diagram. But their final result as a collective due to their respective degrees of influence can not be estimated.



This is the case of a progressive society (advancing in civilization); it is impossible to determine whether or how far the intellectual and moral development discernible in each generation is due to transmission of already acquired powers from generation to generation by heredity and how far to development in the individual caused by constant improvement going on in the social environment and the action of these improved conditions upon successive individuals apart from inheritance.

(c) That there are many different directions and varieties of development—that different individuals develop in many different ways, owing probably and partly :—

(i) To difference of the internal factor, innate, hereditary capacities and peculiarities of character and partly—

(ii) To differences in the external, physical, and social environment. It is diffcult indeed to measure differences of innate capacity and inherited disposition, but these differences seem to be great in kind and degree.

(d) That the older Psychologists, viz Locke overlooked the innate elements of character and ability altogether, and thought that all men were born equal in character and powers (like a sheet of white paper ready to have anything impressed upon it), and that all differences were the results of external circumstances. But that recent Psychologists, on the contrary, have a tendency to over-value hereditary (the internal) factor and overlook too much the influence of social environment (education &c.) in determining development.

Note. On the *training* of faculties, or education (designed external influence) of the faculties. It consists chiefly in bringing social and physical influences to bear upon mind in the way most favourable for exercising and developing its faculties, presenting to it both (1) Suitable materials upon which to exercise its powers and (2) sufficient stimulus, motive, or impulse to use them and to be successful. Such training supposes as its conditions—

I Knowledge, on the part of the educator, of the laws and conditions to which mental development is subject ; e. g. the kind of materials, the kind and degree of stimulus.

II Conformity to the natural order in which the faculties are developed, e. g observation *must be exercised before imagination*, and both before reasoning.

III Adaptation of the training to the natural differences among minds ; e. g. in some minds observation and imaginaaion most, and in others abstract reasoning &c.

CHAPTER IV.

General condition determining the degree and direction of mental operations. The Volitional factor of consciousness

Attention in its widest sense will include both reflex and automatic actions and also intuitions accompanying all mental operations in a greater or less degree.

Define and describe Attention.

Attention is the self-direction of the intellectual power or the activity of consciousness upon a particular object, varying in degree from a kind of conscious reflex activity (effort, only akin to volition) up to effort of will-proper with the result of intensifying consciousness by narrowing it on some definite and restricted areas ; or in other words it is a function of the volitional side of our nature in relation to intellect, consisting in directing, concentrating, and focussing the activity of intellectual discrimination upon a particular object to obtain a clearer consciousness of it.

Observe—

(*a*) *The question whether there be such a thing as unconscious mental activities* (unconscious thought). Consciousness depends upon the concentration of the mental power and activity upon a single point or at least a restricted area by *attention.* But can there be such a thing as mental states and processes which do not rise into consciousness? Is there a limit of concentration and intensity at which mental processes rise into the light of consciousness, "threshold of consciousness," but below which they go on in obscurity and unconsciously, so that our conscious states will be produced by a combining and intensifying of operations themselves not conscious? It may be said indeed that unconscious thought or mental state is a self-contradiction, but this is only a verbal difficulty.

This question is closely connected with the question—how our past experiences are preserved in mind.

(1) It must either be by a complex of traces, impressions or latent activities left and preserved in the mental principle itself; in this case, we may fairly call these latent traces or activities unconscious mental states; or (2) by means of traces or impressions left in the structure of the brain (the Cerebral Hypothesis—that experience makes some re-arrangement of the cells or molecules of some part of the brain which remain after the original stimulus has ceased, in which case we shall not have unconscious "ideation" or thought, but only unconcious cerebrations or brain-states.)

Wundt compares the whole contents of mind at any moment to the parts of a landscape, the whole of which may be vaguely present at once, but of which the eye can give a clear perception of only one part at a time.

(*b*) *The organic concomitants of attention.* Attention being an act and effort of the mind, there is reason to believe that it is accompanied by some energy and evolution of force in the motor centres of the brain. This is confirmed by the fact, that it seems always accompanied by some degree of muscular tension and effort, indicating an outflow of force by out-going nerves. Thus, in attention, not only to external things but to the ideas of the mind also, there is some tension and exercise always of the muscles of the organ, concerned in the operation, e, g, not only in looking at a building but also in merely thinking of it, there is a straining of the muscles of the eye to follow the outline of the object and fix attention successively on its different parts ; and in thinking words or even a series of ideas, there is always a suppressed articulation or movement of the muscles of speech ; and the muscular outflow of energy is also accompanied, it would seem, by a flow into the traces or tracks which previous experiences of the same have left behind them in the sensory centres of the brain, thereby contributing to a fuller and clearer consciousness of it

(*c*) Attention being thus a focussing of the mental energy upon a narrow field or area in order to obtain a clear consciousness of it, it has been questioned whether we can be conscious of more than a single thing or a single point at a time or merely seem to be so by passing rapidly from one point to another. Sully thinks that in case of dis-connected objects we must really pass from one to another and attain a consciousness of them successivly, but in the case of closely connected impressions of points or parts of a single restricted area, we are able to group them in our consciousness to some extent simultaneously.

(*d*) *Degree of consciousness of attention.* The degree of attention exercised at any time will depend chiefly on two conditions :-

(i) The quantity of energy disposable at a time—the fresh healthy state of mind or organism,

(ii) The strength of forces or stimuli which excite it to action, and the stimuli exciting to action are of two kinds—

(1) *External*—some striking or exciting characteristics in the external object drawing attention to it *involuntarily*, e. g. a bright light ; a loud sound .

(2) *Internal*—some motive or desire impelling the mind inwardly—making it concentrate its energy upon an object *voluntarily*.

Two forms of Attention—Non-voluntary or *Reflex* and Voluntary. Consider :—

I. Reflex or Non-voluntary Attention. The external exciting force or stimulus may so excite the organ and mindby to produce a concentration of mental activity upon itsen (object) without any conscious desire or purpose on he because the inward currents produced by the external stimulus towards the sensory centres immediately attack also the motor centres and produce immediately a corresponding outflow concentrating the organs and the energy of mind upon the object without the intervention of any idea, purpose, or desire and therefore without any volition, for [illegible] reason it may also be called *Reflex Attention* (from the an[illegible]y of reflex action), —the concentration of the muscles of the eye, ear &c, upon the object being reflex, e. g, a bright light, or color, or sharp sound excites and draws the eye or ear to itself without and even in spite of our will.

II *Voluntary Attention.* On the other hand, the impression may first rouse feelings and ideas of the mind ; and in consequence of these, a desire may arise to consider the exciting object or idea more closely. In consequence of this desire, they may voluntarily concentrate or focus its energy upon the object or idea by an active will ; for will-proper consists in a free, conscious action of the eye prompted by a desire, purpose, or motive as distinguished from reflex action, which works spontaneously without any previous desire or purpose. Hence attention prompted by desire may be called Voluntary Attention. Thus, in reflex action, there is no conscious mental process intervening between the inward flow caused by the impression and the outward flow to the organ concerned. Whatever intervening process there is, it is unconscious in Volition-proper ; on the contrary, any stimulus from without excites first a train of ideas and feelings, and it is in consequence of an idea or feeling (called motive or purpose) that the action follows.

Now these two forms of attention correspond to stages in the development in the mind. Thus the attention of a child is at first wholly *Reflex*, determined always by the newest and rongest impression. Voluntary control develops later, but its lividuals vary much in their power of voluntary attention, thad one kind shades into the other without any absolute line demarkation.

sonWe have to consider now—*the laws and conditions of Attention.*

I The laws of Reflex Attention are, however, at the same time laws of attention in general, because they apply to voluntary attention also. We have already found that the degree or force of attention depends partly on the vigour of body and mind at a time, and partly on the strength of the stimulus. Now the nature and strength of the stimulus has the double effect of determining partly the degree or force of attention, and mainly or wholly the direction of the attention. Hence the *laws and conditions of Reflex Attention* will be found to consist mainly in the precise characteristics which make it potent or attractive or determine its impressiveness which may be considered under two aspects :—

(i) *Its Absolute Impressiveness*, or power over attention which depends on its quantity including both its *degree* and its *duration* e. g. the brightness of a light or colour, the vividness of a mental image ; and on its quality, its being pleasurable, indifferent (neutral) or painful. Pleasurable or painful impressions excite and attract attention to themselves, because they excite feeling ; and strong feeling draws the intellectual activity upon itself ; e. g. a beautiful object excites and draws attention to itself ; and on the other hand, painful feelings such as terror and horror have a fascinating effect upon the intellect ; whereas indifferent objects (or objects neither distinctly pleasurable nor painful) have less attractive effect, excite less attention, and are sooner forgotten.

Hence observe :—The interest which we have in things is but another name for the feelings which they give rise to in us by exciting our particular sensibilities—tastes and fears &c, and thereby also drawing the attention to themselves, so that their impressiveness is essentially their power of exciting our feeling or interest. But the term *interest* in common usage is limited chiefly to these things which excite pleasurable feelings in us, and pleasurable trains of thought, and thereby *voluntary* rather than *reflex* attention (because voluntary attention supposes a train of feelings and ideas). But beside the absolute impressiveness of a stimulus, it has also what may be called (ii)*Relative Impressiveness*—the force which it derives from its relation to other stimulus preceding it. Thus a sudden change from a state which has continued for sometime to an entirely new and different impression gives this new impression a greater stimulating power; whereas the same impression, if continued very long without change, loses its stimulating power, and thus ceases to exert effect on alog attention, whether it be that it exhausts its region of the brain or for some other reason (Hobbes, Bain, and others). Observe :—

(*a*) *Change of impression essential to consciousness.* The same impression without change would cease to affect consciousness. This may be a consequence partly of the laws of our nervous organism, that the same impression and consciousness affect always the same region in the brain, and if continued too long without change, produce exhaustion—a *trophy* or loss of function, but partly and more probably of the fact that consciousness is essentially discrimination of the relations ; and the changing states are regarded for descrimination and comparison, otherwise there would be no consciousness (Bain's Law of Relativity of consciousness).

(*b*) *The forms of relative impressiveness include the novelty of a thing*, i. e. its being different not from preceding impressions but from all previous experiences. But still a merely novel impression, though stimulating the attention for the moment, leaves little parmanent trace of itself in the mind, unless the impression possesses also the absolute impressiveness of interest, i.e. the power of exciting feelings. And it is not so often altogether novel impressions that do this as old impressions renewed or repeated (or impressions tending to run into old traces and revive old ex-periences). It is they chiefly that excite our feelings and interest.

The intelligibility of a thing has also something to do with its interest and an entirely novel impression is less intelligible than an old one.

Notes on the adjustment of attention :—*Attention* means sometimes an effort to adjust itself to an object. For when a succession [illegible] passes rapidly through consciousness, the mind [illegible] and confused by them and requires both time [illegible] to adjust itself to them and the stunning effect of [illegible] impressions and the effect regained by new adjustment [illegible] an important part of our mental labour, tending to [illegible] the energy of brain and mind; and whatever facilitates adjustment of attention, diminishes the strain and effort, the wear and tear of the mind; e. g. in the case of a series of recurrent sound as the strokes of a clock,. we often hear the second or third but miss the first. This may be because—

(i) The accumulation of the traces of successive impressions increases the effect, supposing the first one too weak to rise into consciousness, or—

(ii) a gradual adjustment of attention to the object is needed before it can be clearly perceived. This needs time. The *condition of adjustment* depends partly

(*a*) on the character and partly on the force of the impression itself. Thus very powerful impressions require "greater effort of adjustment than moderate ones; because they tend to stun and confuse the mind. The very feeble impressions also require more efforts than moderate ones in order to raise them above the threshold of consciousness.

(*b*) and also on the previous state and activity of attention (mental energy); when the mind is previously either in an inactive state (,e. g. sleepiness), or intensely occupied with another activity, then the effort needed for attention to a new object is greater. Hence moderate state of mental activity is most favourable to attention to new impressions, the activity (already exciting) having duly to be divided into new channels.

Continuity or smoothness of transition :—Attention passes more easily and with less shock or effort from one thing to another (i) when there is some similarity between them, e. g. from one part of a landscape to another, from one idea to another, because there is only a transference of the same force of activity from one thing to another, and so between new impressions of the same sense, when they occur at regular intervals, e. g. music and verse when the transition is aided both by the similarity and the regular recurrence.

(ii) When there is already some connection between the impressions i.e. some association formed by their having already been experienced together or in close succession, e. g. if we have already experienced the series A,B,C,D, then we can follow and attend to it with greater ease.

Expectant Attention. Expectation is the adjustment of an attention for an impression, before the impression itself has occurred, to the mere idea of the thing with a knowledge or belief that the thing is about to happen, e. g. the flight of a rocket ; the sound of the time-gun. The part of the pleasurable effect of a rythmic succession of sounds or sights (e. g music, verse &c.) is that attention can be adjusted beforehand to the various transitions. We expect them, and therefore there is less effort of adjustment needed when they come (see note on the measurement of the time needed by the different mental processes involved in volition). There are five stages —

(1) The time needed by the nervous current from the surface (Periphery) stimulated inwards by in-going nerves to the brain centers of sensations.

(2) The time needed to produce the first consciousness·

(3) Time needed to attain clear consciousness by concentration of attention on understanding of the impressions.

(4) Time needed for the process of volition—the making up of our minds.

(5) Time needed by the passage of will-force from the motor-centre to the limb (to move it) by out-going nerves.

Now these periods are shortened by expectation or pre-adjustment of attention, because every part of the organism is thrown into attitude or state required.

II. *The nature and laws of Voluntary Attention.* Its distinguishing characteristic as voluntary consists in this—that there are a number of ideas alone or several ideas and impressions present in mind at once,—each tending with a certain force of its own to draw the intellectual activity to itself and produce attention of the reflex kind, will consist in choosing some one of these in preference to the others and concentrating the activity of the intellect (attention) upon it, thus controlling the impulses or forces tending to merely reflex actions.

Thus suppose E be the conscious Ego, and several ideas or impressions present to consciousness be a, b, c, d, e,—each tending to draw the attention of Ego with forces f^1, f^2, f^3, f^4, f^5, Now the Ego chooses and directs its intellectual activity (attention) upon the idea c and suppose the force with which it does so (its force of volition) be called f. w ; then the force of concentration or attention upon idea c will be composed of E's own attention upon f^3 (ie the force with which c itself tends to produce reflex attention) together with the will force of the Ego directed upon it *i. e.* attention on c= f. w + f^3.

And when attention is thus concentrated on c, then the others *a, b,* &c. will be dismissed or repressed beneath the threshold of consciousness for the present.

Observe that the attentive force of ideas consists in their interest or the feeling accompanying them ; and that of external impressions mainly in their degree or force of impulse and partly also sometimes in interest (though that belongs chiefly to motive or internal impulse of ideas) ; also that the internal forces by which ideas tend to draw attention to themselves may be called *motive forces* to distinguish them from the more mechanical forces of external things acting on our organism from without.

But though we can thus direct our attention to a particular idea or thing by will-force (*f. w.*) in spite of the counter-attraction of other ideas or things, yet we cannot keep it fixed on this idea or thing for any length of time by will-force alone, unless the will-force is supplemented by interest inherent in the idea of thing itself (viz by *f s*) ; other-wise the will-force of attention towards this object gets weaker and weaker, so that other forces begin to have free scope again, and succeed either in drawing attention is [illegible] in attaining a new act of volition [illegible]

Hence the mind [illegible] *Attention*. We found that [illegible] partly on the force of the stimulus, at [illegible] degree of bodily and mental vigour at the time; so voluntary attention will depend partly on bodily and mental vigour at the [illegible] determine the strength of the will-force proper (f. w) and partly on the strength of motive-force or idea which attracts the will-force of attention to itself, viz f^3, in the figure.

Relation between the effort of Attention and the result attained—viz. the clearness and distinctness of consciousness produced by the effort of attention. The end of attention is of course to attain greater clearness and distinctness of consciousness. But this result does not increase in the same ratio with effort of attention, but in some much lower ratio; whence it would seem that much of the energy of attention is intercepted and spent in the overcoming of obstacles, (e. g. the resistance of counter-impulses and motives f^1, f^2, f^3, &c and the faintness of the impression), so that the effective force of attention is what remains over, when these obstacles are over-come.

The growth and development of Attention and its elements :—*First stage*, viz that of a *Reflex action*—Non-voluntary Attention. The child's capacity of having its attention attracted and concentrated in the reflex way by external stimuli increases with repetition; and the process is helped by the interests which impressions begin more and more to excite as the mind develops. And this interest prepares the way for voluntary attention by preserving and reviving the ideas of things in the mind and the desire of experiencing that again.

Hence the *second stage*—Voluntary attention that begins when the ideas are past; and painful and pleasurable experiences begin to be preserved and revived in the imagination, awaiting desire of avoiding or repeating them.

It is thus when the child has several possible objects of attention before its mind, that it begins to choose between them and concentrate itself now on one and now on another (according to desire or motive-will). And the power of voluntary attention like other faculties increases with repetition and practice—the obstacles to attention getting more and more under command with every repetition.

The strength or growth of the purely Voluntary element in Attention may be measured by the degree of its different elements :

(1) By the power of attending to things in themselves uninteresting *i. e.* when f^3 or the attractive force of the object itself is will, this power of attending to uninteresting things is increased with every repetition and distinguishes the higher phases of intellectual development, although we must observe, that even such things, after voluntary attention has been frequently turned to them, often begin to acquire an interest of their own. And voluntary attention is often prompted and strengthened by the feeling of curiosity or desire for knowing which supplements the purely voluntary impulse.

(2) By the power of resisting and repressing the forces of the other stimuli (f^1, f^2, &c) tending to divert or distract the mind from an object of attention (c) ; and this power also is increased by practice, e. g. distracting sounds, sights or ideas, —each tending to draw away the attention to itself.

(3) By the power of keeping the attention fixed on the object upon which it has once been concentrated, which is also developed by repetition. But this power has its necessary limits. The interest of the thing f^3 gets less and less increased or voluntary effort (*f w*) to keep up the attention to it when fatigue intervenes and attention to c at last fails. The attraction of other objects (*d, e,* &e) proving at length too strong for diminishing will-force (*f. w*).

Hence persistence of attention requires a continual renewal of interest and the form of interest which is most permanent is scientific curiosity or desire of knowledge. It is itself however a product of development.

Now these three elements—*non-dependence on interest, resis-*

tance to counter-attractions,—and their system of *efforts*—constitute the mind's power of voluntary self-concentration or voluntary attention which is developed therefore along with these elements.

Connection between Genius and Voluntary Attention (observation) :—

(*a*) Some men of genius have imagined that their genius consisted in the power of attention. This is an imagination ; but genius is undoubtedly accompained by great power of voluntary self-concentration.

(*b*) *The area of attention* is very narrow, only one can be attended to at once ; but the growth of voluntary attention includes increased power of passing rapidly from one thing to another and the adjustment of attention to different objects in rapid succession which is almost equivalent to simultaneous attention.

(*c*) Voluntary attention like voluntray action becomes perfect under the form of *habit*. Attention to a class of objects which at first requires the effort of will, if repeated a sufficient number of times, becomes a habit almost automatic.

(*d*) *The varieties of attentive power*. Some can keep their attention fixed upon some object or class of objects for a greater length of time than others, but are slower in perceiving and understanding new things. Others are quick in passing from one thing to another and understand their connections, but have little power of continuous and profound thought, This is the distinction of quickness and depth of mind—cleverness and genius. Thus the power of attention does not develop equally on *all* sides.

CHAPTER V.

How are the materials of knowledge obtained ?

All materials of knowledge are obtained through the senses and in their simple forms consist of sensations or sense-impressions. Our highest and most abstract ideas (according to Sully) are derived by intellectual processes from the materials given by the senses, and our knowledge can extend no further than is warranted by materials of sensations (sensationalism, Empiricism as opposed to Intuitionalism).

Define *sensation*.

It is a peculiar feeling of mental state occasioned or produced in the mental principle by the action upon it of the external world through the medium of the organism and in-carrying nerves. In other words it belongs to the genus or class of mental states called feelings and is differentiated from other feelings by this—that it is feeling occasioned by external process acting on mind through the medium of organism. It does not follow immediately indeed on the impression made by the external force on the organism, because this impression has to be transmitted by in-going nerves to the seat of consciousness or sensory centre (sensorium) in the brain, and produces a certain agitation, modification, or arrangement of the cells and molecules, and this requires time.

Note. The definition of sensation is complicated, however, by the fact that there are some feelings in the nature of sensations that do not seem to be produced directly by any external impulse, e. g. illusory sensations arising without any external object as flashes of light and colour in the eyes when the eyes are shut or in dark. But these are ideas rather than sensations. And the organic sensations or feelings connected with the organic processes of digestion, breathing, repletion and want, hunger and thirst &c., are produced directly by external process, still they arise originally from interaction between the organism and extra-organic things and do not invalidate the general definition.

What is sensibility ?

It is mind's capacity of having sensations *i. e.* felings excited in it by external things through the stimulation of the physical organism. The word however is often used loosely in reference to the organism itself. It is said to possess *sensibility*, when is meant merely that the organism is the means through which sensation is excited in the mind.

Distinguish two kinds or classes of sensibilities.

All parts of the organism are supplied with sensory-nerves and there are some kind of sensations that are felt very much the same through the whole body, instead of being concentrated in a single organ. This is called *common* or *general sensibility*. On the other hand, there are sensations which are felt only in particular part of the body and particular organ especially adapted for them. This is called *special* sensibility.

I. *General or common sensibility—organic sensations*—A class of vague feelings not directly caused by the action of external things, nor seated in a particular local organ of their own, but diffused generally through the organism and connected with its own internal functions and processes viz, the processes of organic life. These include the pleasurable and painful feelings connected with Digestion and Indigestion, *hunger and thirst, close and fresh air, circulation and nutrition, respiration and breathing*, the *states of the nervous and muscular systems*—feelings of vigour, or exhaustion, fatigue, weakness &c., *temperature*, feelings of cold and heat.

These feelings make up perhaps the greater part of happiness or misery, and yet from their vagueness and want of variety, they form but a small part of the materials of intellect, giving little or no knowledge of the external world, (though of great importance psychologically, because they do not afford much materials of knowledge).

2. *Special sensibility—the special senses.*

Those sensations which have special organs for receiving impressions of a particular kind from the outer world—the *eye* for receiving undulations of the ethereal medium ; the *ear* for waves of the atmosphere ; the *skin* for motor impact ; the *nose and tongue* for chemical processes. These forms of sensations are not only clearly distinguished from each other (sight from sound), but each furnishes an immense number of varieties of discrimination within itself, e. g. the almost infinite variety of colours and forms and of sounds and touches. And as these organs receive their impressions from external forces, they give knowledge of the external world; whence they furnish the greater part of materials of our knowledge.

Define *a sense-organ.*

It is a structure forming the peripheral termination of a sensory-nerve and especially differentiated so as to be affected by a special kind of external stimulus e. g. the *eye* by the impact of the ethereal undulations, the *ear* by waves of the air.

Define a sense.

It is the aggregate of sensations experienced through the stimulation of some sense-organ; touch or sensibility to mechanical pressure has been called the fundamental sense, and it has been supposed that all the other special senses have been developed out of touch or the sense of pressure.

Character of or differences among sensations indicate differences and changes among external things, thereby givingknowledge of the external world.

I. *Differences of intensity or degree of Sensations* giving knowledge of the structure of the bodies producing them, and the force which they exert, e. g. the brightness or faintness of the light coming from an object, and the intensity or loudness of the sound coming from it, give us some knowledge both of the nature and state of the object and of its distance, direction &c.

Note. The relation between the *force of the stimulus* and *the degree* of *sensation* has been subjected to measurement. The *degree of sensation* increases up to a certain point, when the force of stimulus is increased, but not in the same ratio; and the following facts have been ascertained :—

(i) A certain force or degree of stimulation is necessary before any conscious sensation can arise and this is called the *threshold* or *liminal intensity*; and the limit determines the absolute sensibility of an organ or part of an organ—the degree of of stimulation needed by an organ to produce sensation in that organ.

(ii) When the threshold is passed, an increase of stimulus does not always cause an increase in the intensity of the sensation—the stimulus must go on increasing always in a higher and higher ratio in order to produce an increase of sensation.

In fact, in order that the degree of sensation may increase in an Arithmetical Progression, the degree of stimulus must be increased in a Geometrical Progression. This is called *Weber's or Fechner's Law.* The increase of stimulation, underlying an organ or part of an organ to produce a perceptible increase of sensation, is called the *discriminative sensibility* of the organ ; and the smaller the increase the higher the discriminative sensibility. Thus the sensibility of the finger-tip to pressure is about twice that of the shoulder-blade *i. e.* it needs only half the increase of pressure to produce difference of feeling.

(iii) Above a certain limit, stimulus may be increased without any further increase of sensation. The stimulus may be increased indefinitely, but the sensation can not be increased above a certain point. This point is called the *height* of sensibility, and the distance between the threshold or the lowest limit of consciousness and the height or the highest limit is called the *range* of sensibility.

2. *Difference of quality or kind among sensations*—The sensations of a particular sense are marked off from those of other senses by difference of generic qualities; e. g, sight from sound, taste from smell.

On the other hand, the different sensations of the same sense are marked off from each other by its specific qualities, e. g. different colors, sounds, and tastes.

Note. Simple and Complex sensations. Sensations which appear simple, ultimate and unanalysable are often really produced by a fusion together in consciousness of many different units of sensations, "of different degrees and kinds." Thus the sensation of white light results from a sort of chemical combination of seven or many more elementary sensations of colour, capable of being experienced seperately ; so every musical sound is made up of a series of successive shots or beats. Thus Spencer and others say that our sensations are not simple, but are all compounded out of simples or units communicating to the organ the external forces—waves of ether, air &c.

It is still doubtful whether these are different sensory nerve-fibers and different cells for every difference of sensations—or whether the differences of sensations are produced by different modifications merely of the same fibres and cells. These are the *principal* differences among sensations, but there are also the following minor ones :—

3. *Difference of duration among sensations.* All sensations have *duration* but some have more and less definitely marked beginnings and endings than others; so that some are clearly marked off and defined from each other and others run into and mix with each other. Thus sights and sounds terminate quickly and are clearly distinguishable from each other. But smells and tastes linger in consciousness even after the object has been withdrawn and thus mixed with each other.

As sensation lingering in conscousness after the stimulus has ceased is called the *after-sensation* especially characteristic of taste and smell.

4. *Difference of local character* characteristic of touch and vision mainly. Two impressions of the same degree and quality yet produce sensations of somewhat different characters, when they are made on different points of the surface of the organ (different parts of the skin or of retina), e. g. the pressure of a sharp point, though always the same in itself produces somewhat different sensations in different parts of the body. These local differences are explained by the supposition that there is difference in structure and qualities of the different nerve-fibres, so that even when the stimulus is the same, the different nerves yield certain differences of sensations. This will apply wherever the organ is a surface and hence especially to touch.

Note. It is to be observed also that the change in the state of the organ itself produces change in the degree and quality of the sensation.

Characters of *Special Senses.*

1. *Taste and Smell* are called the lowest or least *refined* of the special senses, because they are the weakest and afford the fewest discrimination of kind and degree, and therefore less knowledge of the world, and fewer materials for intellect. We can not discriminate different tastes and smells as we can different touches and sounds, nor pass so rapidly from one to another. Being placed at the entrance of the digestive and respiratory passages, their function is to distinguish what is wholesome and unwholesome to the organism as a whole; and they are therefore closely connected with the organic sensations, and like the organic sensations they yield a preponderance of feeling over intellectual discrimination.

2. *Touch* includes not only sensibility to pressure but also (according to Sully) to temperature and affords very numerous and delicate discriminations of—

(i) Degree of pressure—discriminative sensibility to pressure differs very much in different parts of the body and has been accurately measured by Weber and others, e. g. in exterior surface of finger an increase of $\frac{1}{6}$ gives a distinct increase of sensation, and on the back of the finger it requires $\frac{1}{3}$ to do so.

(ii) *Difference of quality*, e. g. roughness and smoothness. And Sully thinks heat and cold (if they are not rather organic Sensations).

(iii) *Difference of locality*—impressions identical in kind and degree yet yield some difference of feeling in different parts of the body, owing apparently to differences in quality of the conducting nerves. The discrimination of the distances and positions of points pressing on the skin e. g. the point of compass is acuter at the tip of the finger $\frac{1}{20}$ of an inch than at the lips, hands and feet. Portions of surface where the discriminative sensibility is the same are called *"circles of sensation."*

3. *Hearing* affords a greater number of discriminations of

degree and kind than any of the preceeding senses and therefore ranks high in refinement or intellectuality.

(i) *Difference of degree.* It has been found that the smallest difference in degree of stimulus is needed to produce difference of feeling *i.e.* 3 to 4° which is not particularly high in respect of degree but—

(ii) *Difference of quality.* Some are among the most delicate of all discriminations of intellect and are known by the name of *pitch* or *tone.*

Less than 20 atmospheric waves per second give a succession of separate beats, shocks, or noises (non-musical sounds); but more than 20 per second produce in consciousness one continuous sensation (musical sound). When the number of waves is still low, the sound is of a deep harsh tone or pitch ; but as the number is increased, the sound becomes shorter and rises in pitch or tone, and at 2000 or 3000 becomes a high clear, soft, treble sound ; but at over 4000 it becomes piercing, sharp and unpleasant ; and at about 49000, it becomes inaudible to the human ear. The differences of sounds, thus produced by different rates of atmospheric vibrations, are called differences of *pitch* or *tone*, and harmonious combinations of different tones constitute music. The discriminative sensibility for tone is very delicate in all but differs much in individuals. Some men can distinguish a difference of 439½ : 400; some 1000 : 100.5.

(iii) *Difference of timber or musical quality.* Musical sounds are of the same pitch or tone, yet exhibit some difference of quality when sounded by different voices or instruments. The difference has been called *timber* and how it is produced has been explained by Helmholtz.

(iv) Difference of non-musical sounds or noises e. g. grating, breaking of the sea, wind, trees &c. But on the other hand *Hearing* gives little or no discrimination of locality.

4. *Sight.* It is produced by the shock of ethereal undulations against the retinal membrane with its layer of nerve-cells which communicate by the optic nerve (the thickest of all the nerves

and containing the largest number of ultimate nerve-fibres) with the brain ; and it is the most delicate of all the senses both for degree, quality and position.

(i) As to *degree.* Different forces of ethereal undulations can be discriminated *at* the rate of 120 : 121 *i. e.* in the brightness of a light.

(ii) As to *quality.* Differences depend on different rates of ethereal undulation and range between 456 billions in a second (giving red light) and 667 billions (giving violet light). Above that, they are insensible to vision, though they produce chemical changes, and between them orange, yellow green, blue and indigo, all being combined in white light. But in color, the correspondence between stimulus (rate of undulation) and sensation is not constant discriminative sensibility, varying in different parts of the colour-scale, being the highest apparently at the extremes *i. e.* in distinguishing different shades of red and violet.

Intermixture of white with any of the colours produces what is called *saturation of the color.*

What is meant by complementary colours. If we add purple (intermixture of the extreme of red and violet) to the ordinary seven and orange to the eighth thus formed in a circle or octagon, then each pair of opposites will be found to be complementary and harmonize together well.

Note. Helmholtz has supposed that there are three kinds of optic nerve-fibrils and that the other colours are produced by the simultaneous action of the nerves of these three different kinds in different numbers and combinations. Others think there are only two classes of coloured fibrils, but each class is capable of two opposite or antagonistic modes of activity thus giving for simple colours blue, yellow, red and green. A third variety of nerve-fibrils is assumed however for the opposite white and black.

(iii) *Difference of locality.* Impressions, otherwise the same, produce difference of feeling, according to the point of the retina affected, and by this difference we are enabled to judge with great accuracy or precision the position of the external object, this discriminative sensibility to locality being greatest towards the centre of the retina.

5. *Muscular Sense* is a common name for a class of feelings which accompany the movements (the contractions and expansions) of the muscles, and which are of great importance intellectually as giving us our knowledge of the existence and Primary Qualities of matter,—resistance and solidity, extension, distance, magnitude &c. and in short what is most fundamental and essential in our knowledge of the external world. Thus by the effort of will we move our limbs through space, lift a weight or resist an external force. These are distinct feelings accompanying every exertion of the muscles by which we can discriminate the very nicest variation of the form and degree of exertion and it is these feelings in their innumerable degrees and moods that give our knowledge of the existence and essential physical properties of the external things which we lift, press, exert &c.—their solidity, weight, size, movement, rest, distance &c.

But there is a difference of opinions as to the real physiological origin of these muscular feelings *ie.* as to what it is that really is felt.

(i) Bain and others say that it is a consciousness of the force or energy generated by will in the brain and discharged by outgoing nerves into the muscle to contract them, and that for every degree of force thus generated and discharged there is a distinct degree of feeling.

According to this view, the feeling is connected with the outflow of force by out-going nerves and not by the inflow of force by in-coming sensory nerves like sensations proper, and is therefore not a sensation (sensation being feeling of passive states produced in us from without, whereas this is a feeling of active state). Hence it is also called the *feeling of force* or *expended energy* or *feeling of innervation or discharge of force* into the nerves. Thus sensations proper are feelings of passivity or effects produced in mind by forces coming from without by in-coming nerves, whereas this would be a feeling of activity or exercise of force upon external things by out-going nerves.

(ii) But Ferrier and others say that the muscular feeling is not really a feeling of the out-going current which moves the muscles but only a feeling of changes which are produced in the muscles by the movement—not a direct consciousness of the force which contracts the muscles but only of the change produced in the muscles by contraction and after it Thus the motor-current by out-going nerves contracts the muscles and changes their forms and positions ; and these changes of the muscles affect the ending of the sensory nerves contained in the muscles and thus produce in-going currents ; and it is these in-going currents that produce the feelings called *Muscular*—the feelings of movement, resistance &c., which vary with the kind and degree of the muscular changes. According to this view, they will be only passive feelings produced by in-going currents like other sensations. But this latter theory seems to overlook the fact that if we could not distinguish between the force of external things acting on our mind through in-coming nerves (producing passive sensations) and our own force reacting upon external things through the out-going nerves we should never be able to distinguish between ourselves and external world at all. There would no distinction of self and not-self (subject and object) but only a confused mass of sensation. It is only by consciousness of difference between acting and being acted on that we can know the existence of external things and distinguish ourselves from them. Of course it may be admitted that the active feeling of force is never experienced altogether by itself, but always mixed up more or less with passive sensations arising from the state of the muscles.

Let A be the out-going current of force used to contract the muscle of the hand, B be the in-coming current caused by the change produced by the contraction of the muscle. One view of muscular feeling is that it is a consciousness of the out-going force A, and another view is that it is a consciousness only of the in-coming current B.

The two forms of Muscular Sensation according as the force is resisted or not.—

(i) *The feeling of movement* or of free unimpeded energy in which probably the passive feeling produced by successive contractions and expansions of the muscles is an important element.

(ii) *The feeling of resistance* (strain) or of obstructed or impeded energy as in lifting a weight or pushing an object—an active feeling chiefly of force, energy or innervation.

The knowledge afforded by Muscular Feeling :—

(1) *In the* form *of movement.* This gives us (i) the position of things in space, for the feeling varies according to the muscles moved and the directions of the move ment—right or left, up or down, and these differences are signs by which we judge the position of things in space and (ii) the distance of things from each other and from ourselves in space. For we have a clear discrimination both of the duration and of the degree of the movement needed to reach a thing, and from its duration and degree together we judge the distance of the thing. Thus the sweep of the arm for one foot is felt different from that for a yard, walking one mile is different from two. The discriminative sensibility for movement is greatest in the muscles of the eye which therefore gives the acutest discrimination of distances in the same plane.

(2) *In the form of resistance.* The feelings experienced in pressing, pushing, resisting external objects vary in degree, and it is by them that we understand the existence of external material things, their solidity and degree of solidity, their being soft or hard;— solid, liquid, fluid, weight&.

Thus muscular feelings are always combined with sensations of touch and are associated with them in thought.

Observe :—(*a*) The *Relation* of *muscular feeling* in the form of *resistance* at least is always combined with *touch* and nearly always with *vision*, so that our idea of a material thing is made up chiefly of experiences of these three senses combined *i. e.* of associated units of force—touch colour and form combined into one aggregate idea.

(*b*) *The relation between Attention and Sensation* :—clear sensation supposes always a relation of the mind itself in form of *attention* or self-concentration, and the effect of attention is the clearer discrimination of different sensations and degrees and kinds of the same sensations. But clearness of sensation supposes not only discrimination of different sensations, but also

(*c*) A classing of sense-impressions *i. e.* a discerning of similarities between present and past impressions—the new impressions striking into the trace of past similar impressions, and thereby both rendered fuller and clearer and recognised as having been experienced before *i.e.* classes as identical with previous impressions. This combination of the traces of past impressions with present impressions has the effect of rendering even faint present impressions clearer and fuller to consciousness and thereby enabling it to be discriminated. Thus assimilation and discrimination go side by side, although at first there is more discrimination of differences than discernment of similarities, classification belonging in the main to a more advanced stage of intellect.

(*d*) Growth and development of sense during early life includes (1) increased power of *discrimination*. The child's sensations are at first confused and dim, but it requires gradually the power of distinguishing different qualities and degrees and (2) the increased power of *assimilation* or of identifying new impressions by reviving the traces of old ones and thereby classifying them. But there are—

(*e*) Great differences of sense-capacity among individuals, some being superior in *quickness of response to sensation i. e.* power of feeling and acting upon it quickly, called *absolute sensibility*, and others in *range of sensibility* or sensibility to different degrees of impressions and in discriminative power or power of distinguishing different qualities ; some possessing general discriminative power for all sensations alike, others special discriminative power or power of discriminating special sensations, as colours, sounds &c.

CHAPTER VI.

PERCEPTION.

Distinguish between *Sensation* and *Perception.*

Sensation is a state of mind produced by an outward cause, by something external to and distinct from mind itself, but mind recognising the existence of an external ground or cause of its sensations objectifies its sensations themselves *i. e.* it thinks of the sensations themselves as existing in the external something which is required as the ground and constituting the qualities of that external something. Hence though our sensations are really states of our own minds, because they are independent of will, we recognise them as having some external ground or cause. This is what Sully means by our *objectifying* or externalising our Sensations. The Sensation is rather only the power or property of causing than is really in the external thing. But ordinary thought fails to recognise this and refers the sensations themselves to external things.

Perception may be defined as the act of referring or attributing a sensation to a definite external object as one of its qualities; or as the act of recognising the sensation as a quality or rather an effect of an external object in some part of space, and of combining this something with the sensation, and thinking of the sensations as qualities of this something.

And now the combination in thought of this something which we recognise to be the ground or occasion of our sensations and the sensations themselves which we think of as its qualities may be called the *Percept* or thing perceived, and the

Percept is made up [illegible] external something or x which is the ext[illegible] [illegible]ions and which is really external to our own minds; and the sensation or sensations A, B, C, &c which are really in our own minds but which we automatically objectify and think as the qualities of x. Now we are immediately conscious of sensation or sensations, because they are in the mind itself. We are not immediately conscious of *x*, because it is outside of mind; but we perceive that its existence is implied in the sensations as their external ground or cause.

N. B. This is Sully's own way of explaining it, but the exact nature of Perception and the ground and extent of our knowledge of an external world is one of the greatest controversies of Modern Metaphysics. Observe that it is not enough to define Perception (as is commonly done) as the assigning of a sensation to an external something as its cause, because in Perception we actually ascribe the sensation to an external something as its quality and as a part of itself, and do not think of it merely as an effect which the external something produces in us (though it really is so).

Distinction of Organic and Extra-organic Sensations. Perception localises part of our sensations in the organism itself without ascribing them to any extra-organic cause. These are the *Organic* sensations referred to before. Other sensations it ascribes to extra-organic grounds or causes, and derives from them a knowledge of extra-organic things. Sensation is always accompanied by Perception or reference to some extra-mental ground whether in the organism or outside of it. But in some cases the external reference and localisation of our sensation is clearer and more definite than in others. Thus in the case of many organic sensations, though we perceive them to be of extra-mental origin, yet we have but a vague conception (or perception) of their real locality in the organism. The senses which give clearest discrimination of space and locality are *Sight* and *Touch* (though *Sight* gives only two dimensions).

Development of Perception.—Perception will now be seen as a complex process including the presence of sensa[illegible] sentation (memory) of past sensations ([illegible]) and objectification or reference of these presented or represented sensations to an external something. [illegible] the *stages of development* will be [illegible]

(1) *Consciousness of present sensations or passive mental states* produced by in-going currents.

(2) *Growth of Representation or Memory.* The new sensation begins to strike into the track of the old ones of the same kind, and by revival of old activities of the same kind is rendered fuller and clearer and recognised as having been experienced before.

(3) Another stage is the *Development of Representation* (*Association of Ideas*)The new sensation, by force of Association, revives along with former Sensations of the same kind also former sensations of different kinds which had been experienced along with them on former occasion until they have become associated or integrated with it in the mind and are brought up along with it.

(4) The whole group of presented or represented sensations thus brought before the mind is ascribed to something external as its ground and popularly conceived as constituting the qualities of that object. This complex or aggregate of represented or revived sensations and the external ground to which it is ascribed is called the Percept ; and never perhaps except in infancy is Perception altogether simple (the ascribing of a single sensation to an external ground), but it always involves the above complex processes of connecting the present with past sensations, fusing them into one aggregate, and referring this aggregate to the external thing.

Thus let a be a present sensation, e. g. smell, and a^1, a^2, a^3, &c previous sensations of the same kind (*i. e.* previous experiences of the same smell) and let b, c, d &c be other previous sensations frequently or always experienced along with a and thereby associated with it, e. g. colours, touches, forms, tastes. &c.

Thus when we exp[illegible] into the [illegible] of previous [illegible] &c. so [illegible] the activities lat[illegible] le with *a*, and by the force of Asso[illegible] hes along with them formerly inte[illegible] &c. (colours, tastes, touch &c.) and the whole are toget[illegible] one complex in thought [illegible] *b*, *c*, *d*, &c. and are [illegible]rred together to a single external thing x as its qualit[illegible] qualities and thing together called an *orange*.

Hence Sully's account of Perception is [illegible]. We are directly conscious only of states and id[illegible] our own minds and not of anything extra-mental. But we must assume or infer the existence of an extra-mental world x as the cause of our mental states and ideas, called by Hamilton and others *Cosmothetic-world* assuming *Idealism.—Absolute Idealism* or *Berkleyanism* denies the existence of an extra-mental world x altogether which is regarded however as only a logical paradox.

The channels of Perception—what are called the *Secondary qualities of matter* or the sensations of the four senses—*taste, smell, sound, colour* &c. called *secondary* because variable and non-essential. What is most fundamental and essential in our idea of matter e. g. extension, locality, solidity, form, magnitude distance &c are called the *Primary Qualities*, and are given by muscular feelings accompanied by touch and partly by vision, chiefly by means of muscular feelings.

Primary Qualities are divided into (i) *Geometrical properties* of things—figure, size, position, distance and the like. (ii) *Mechanical properties*—hardness, softness, weight, temperature *&c.*

How are the Primary Qualities of space or extension, distance and position, magnitude known?

Our primary and *original* knowledge and understanding of these relations of things are obtained by muscular or active feelings combined with touch. In course of time however we learn to judge and understand *space, distance*, and *magnitude* by vision. Hence :—

1. *How is the original idea of space, extension, distance and magnitude &c obtained by muscular feeling combined with touch?*

(i) The first thing is to acquire a notion and understanding of the co-existence and permanence of things as distinguished from mere succession in time, because extension implies a number of things or units existing simultaneously as distinguished from a mere succession of events. Now most of our senses give us wholly or mainly a succession of impressions without giving any very clear experience of co-existence or co-existing things. But *touch* combined with *muscular resistance* gives a clear perception of a plurality of resisting points existing simultaneously and yet distinct from each other, e. g. the points of a compass or of fingers pressed against the skin. And this enables us to form a notion of co-existence as distinguished from succession. The eye does the same thing to a less extent, e. g. we can distinguish two, three, or more stars simultaneously, but not very distinctly without moving the eye. But though the idea of *extension* contain co-existence, this is not all. Mere co-existence of impressions is not space which implies co-existence of things and possibility of movement between them.

(ii) Movement between resisting points gives only a succession of resistances in time, but when the movement between the resisting points is frequently repeated in different directions, it always gives the same resistances though in different orders; then we begin to apply to these resisting points the already acquired notion of co-existence and think of them as co-existing things existing simultaneously though we experience them only in succession, *i. e.* we think of them as existing when we are not touching them and therefore co-existing or existing simultaneously. But a plurality of resisting points with the possibility of movement along, over, or between them constitutes an extended surface and gives the notion of *extension* in one or two dimensions, so that the idea of *extension* is a combination of the ideas of co-existence and movement.

Unresisted Movement between coexistent points gives notion of *empty space*, and *resisted* as opposed to unresisted movement gives that of *filled space or extended material body*.

N. B. This is what is called the *Empirical* or E*xperimental theory of space*—that the idea is thus gradually acquired or constructed by mind out of materials viz. the feelings of resistance and movement afforded by experience. But there are different theories.

Thus according to *Development* and *Experimental View*, *space* is not a thing which we intuitively discern as we do colour, taste &c ; but we gradually construct an idea of it for ourselves out of materials which we intuitively discern viz experience and feelings of touch and movement, and infer that there is a reality outside our minds corresponding to this idea within our minds.

(iii) Again our *feelings of movement* differ (1) in *quality* according to the direction of the movement up or down, right or left ; and the discrimination gives an understanding of the direction of the movement and of the things (the resisting point) which stop the movement and (2) in *degree* according to the speed and duration of the movement (according as it is for 1, 2, 3 feet or miles)

Thus (*a*) by the degree and amount of force expended combined with the time, we judge and measure the distance of the resisting object. Thus distance is known by the amount of energy in the form of movement needed to reach a thing, (*b*) the feeling of direction and distance together gives the position of the thing in space, and (*c*) surfaces (extended) in different directions and distances give solid or cubic extension or three dimensions of things.

N. B. Observe :—

(1) that movement of the muscles of the eye gives space in two dimensions (surface, extension) with finer discrimination than that of the hands and limbs. But it does not give the third dimension *distance*. The men, born blind, who obtain their

sight afterwards thought that all things were in one surface pressing upon the eye.

(2). The movement of external moving object is known by the movements of the limbs and eye required to follow the moving object, so as to keep it within the field of perception.

(3). Weight, hardness, softness, smoothness, roughness (and Sully says temperature) are all known through the medium of touch and muscular feeling combined.

Now every material thing affords experience or feeling of the above kinds together with sensations of other senses ; and after being frequently experienced together, they all become integrated together by association into one complex idea, and are ascribed or referred to a single external thing, e. g. orange, and are said to constitute our percept of the thing.

II. *How* are *Primary Qualities, geometrical and mechanical (first known by muscular feeling and touch) come to be understood and perceived through the eye also ?*

(1) *How far does the eye give any immediate cognition or intuition of space and space-relations ?*

We have found that the eye by the movement of its very delicate muscles gives an immediate and very accurate discrimination of space and locality in a single plane, but it cannot give any perception of the third dimension. As far as the eye is concerned, every thing would appear as a flat surface pressing on the eye. But yet we actually do judge the distance and size of things by the eye. *How is this ?*

(2) *How do we learn to judge the distance and magnitude by the eye ?—*

(*Acquired Perception of Vision*)—We know the distance, solidity and magnitude of things only by muscular feeling and touch. But the distance, magnitude, as revealed by touch becomes associated so closely with their visual appearance, that we learn to judge more or less accurately their distance, magnitude &c. ; and this inference is performed so rapidly that we think we see their distance, magnitude &c directly by intuition, though it is not really an intuition but an inference.

(i) *Consider then how we learn to perceive distance by the eye.*

The real distance of things can be known only by movement, viz the amount of muscular energy in the form of movement needed to reach it. But we learn ultimately to infer this amount (1) from the visual appearance of the thing without actually measuring it by movement, from the sensations which the eye experiences in viewing the object, and from the feelings (muscular) connected with the adjustment of the lens of the eye to distance. For near objects it requires to be tightened by a set of muscles belonging to it called *ciliary muscles* to render it more convex in order to cast the image exactly on the retina. For distant things it has to be relaxed and rendered flatter. Now this restriction and relaxation of the ciliary muscles gives a finely discriminated feeling, and from the feeling we learn to judge the distance of things. This applies chiefly however to near things, for distant things there is little or no change of convexity and therefore no difference of feelings.

(2) From the feeling connected with the greater or less convergence of the axes of the eyes. For very near objects the eyes have to be turned inwards and the axes made convergent. For distant ones the axes become parallel. This difference of convergence gives different qualities of muscular feeling, and from these we learn to judge the distance of the thing. Both the above criteria are available for near distances chiefly, and hence we can judge short distances so much better than long ones.

(3) From the Retinal *magnitude or apparent magnitude*—the size of the image on the retina, in other words, its size as it appears to the eye. This supposes, however, that we already know the real magnitude of the thing as measured by movement. Knowing this we learn to judge the distance of the thing from its apparent magnitude. As we do generally however the real size of things as measured by movement, the retinal magnitude is perhaps a chief *criterion of long distances.*

But this process is less rapid than the former ones (*i. e.* requires more time to think) and often takes the form of conscious inference instead of instantaneous judgment.

(4) From the *clearness or haziness of the visual image.* The nearer it is the clearer it is, and the more distant the hazier ; and from this we can judge to some extent its distance when the state of the atmosphere is the same. But this test is very liable to error. When none of these criteria is available, when the object is too distant to affect the convexity of the lens or convergence of the axes, when we do not know the real magnitude, and the state of atmosphere renders the test of clearness uncertain, then we can not judge the distance of things by the eye at all.

(ii) *How do we learn to judge the magnitude of things by the eye ?*

We know the real magnitude by muscular feeling and touch only. But on learning it this way we associate it with certain visual signs from which we learn to infer the size to some extent without measurement. This inference is made chiefly from the retinal or apparent magnitude of a thing when the distance is already known. Without knowledge of distance we can not judge the real size by sight at all, e. g. of the sun, moon, and stars.

(iii) *Perception of* form *by the eyes* :—

(1) The surface or plane form (one or two dimensions) is discerned directly or intuitively by the eye viz by the feelings connected with the muscular movements of the eye required to move along the thing (if it be a line only) or round about it (if it be a surface.) Thus following a straight line with the eye gives a different feeling from following a curved or zig-zag one; following the outlines of a square gives a different feeling from that of an ellipse or circle. Hence the muscular feelings of the eye give a direct perception of surface form which is supplemented however by the muscular feelings of the hand.

(2) Depth and solid form however (the third dimension) can not be known directly or intuitively by the eye to which every thing appears in one plane or surface. The third dimension of things (their solidity) is known by muscular movement of the limbs alone combined with touch and resistance. But the solidity of the thing being thus known in this way is associated with peculiarities of visual appearances.

Among these visual peculiarities from which we learn to infer the solidity of things, we may mention : difference of light and shade ; indications of distance. The different parts of the same thing are judged to be of different distances by Binocular Vision or the simultaneous use of the two eyes. In the case of near objects the images produced in the two retinals are somewhat different because they give different sides of the thing, yet these two images run together into one in *consciousness.* Now the aggregate image, thus produced in consciousness by the fusion of the two images of the two eyes, is different in case of solid things from that given by any one eye alone ; and we learn from experience to interpret the difference as a sign of solidity, and at once understand the object as solid. The stereoscope is a contrivance which proves this by casting two somewhat different flat pictures into the eye in such a way that they run into one in consciousness and produce the illusion of solidity, showing that it is the two somewhat different pictures of the same thing given by the two eyes that give the impression of solidity.

The chief problem of Binocular Vision is—*how the two images given by the two eyes run into one image in consciousness.*

(iV) *Perception of number by the eye.* Vision as well as touch give some understanding of co-existent plurality and therefore some notion of co-existence and number. But a full understanding of number requires a series of full acts of perception together with some exercise of comparison and abstraction.

Summary of results. Hence we conclude that the visual judgment of space-relations, though in mature life performed automatically, is really the result of a process of slow acquirement by means of experience in early life (the acquirement being aided probably by an immature disposition inherited from ancestors), and the process begins with the acquirement of notions of space, extension, distance, magnitude &c through muscular feeling and touch. But finally these muscular experiences are superseded, to a great extent, by sight which operates however only by suggesting possible experiences of muscularity and touch so that the visual aspects of things are merely symbols from which we learn to read off automatically (without knowing how) the space-relations of things; and hence intuition or immediate perception of things, when we receive a single sensation from a thing (e. g. see it or touch it), more comes before the mind in mature life than the single sensation. The single sensation brings up along with it a cluster of previous sensations and feelings associated together and preserved in idea.

How do these revived sensations run into one aggregate with the present sensations and how are the whole integrated aggregate referred to a single external object and thought of as its qualities?

The aggregate sensation (both presented snd represented) thus referred to an external thing is called the *Percept of the thing* (*i. e.* what we perceive as belonging to the thing) ; and the act of combining all these experiences and referring them to a thing we call *Perception.* Hence in early life Perception will be very simple, merely the referring of a single sensation to an external cause ; in mature life more complex, because the single sensation is always combined in thought with past sensations, and the whole aggregate thus formed referred to an external ground.

Additional observations :—

(*a*) *Identification or recognition of objects* implies comparison between present sensations and past sensations revived in idea, and the discovery of the *points of identity* amidst points of differences.

(*b*) Localisation of feelings in particular parts of the body is accompanied by movement and touch in much the same way as localisation of external things. Suppose a part (burnt or cut), say, in the foot. Now a series of movements and touches (at first at random) are required until the feeling of touch and pressure coincide with [illegible] of the sore is known by direction [illegible] needed to reach it with the h[illegible] part where the pain and touch coin[illegible] local quality of the touch in that parti[illegible]

(*c*) *Trace the developmen*[illegible] *ideas of Self and Not-Self, Organism and Extra-organic things* :—

The child's first experiences are confused mass of sensations, without any clear discrimination of Self and Not-Self, Internal and External.

(i) The first step in its education is probably to learn to distinguish, at first by movement and touch and then partly also by vision, the different parts of its own body from each other, and to refer its different sensations to different parts,—taste to mouth, colour to the eyes, pains to foot or hand &c.

(ii) Then it begins to distinguish between its own body and external things and to refer its sensations to external things from the experience that its sensations are always dependent upon something which resists the movement of this body and is therefore external to that body, the meaning of external thing being at first derived wholly from touch and resistance but soon coming to be understood by vision also. At this stage, Sully thinks, the child still regards its body as part of its Self, so that its distinction between Self and Not-Self is essentially a distinction between its own body and extra-organic things.

(iii) Lastly when the distinction between permanent and transitory things becomes sufficiently clear, we learn to distinguish between the body as the seat of continually varying feelings and sensations and a permanent Self or mind within the body which discriminates these changing states, but itself remains permanently the same, and then distinguishes the body as something external to mind. But there remains to the end, Sully thinks, a certain tendency to regard the body as the part of Self.

(*d*) *Auditory Perception*, or knowledge of space-relations and external things by means of the ear. We judge of the nature, direction, and distance of things to some extent by means of their [illegible] *Acquired Perceptions* merely, formed [illegible] the sounds of things and their visual [illegible] directions, and distances as mere [illegible] so that from their sounds we learn [illegible] their nature and position. Hence it is an acquired power and of the nature of inference.

(e.) *Development of Perception*—the different steps involved in their order :—discrimination of different feelings and sensations ; discrimination of different parts of the body and reference of particular feelings and sensations to particular parts of the body, e, g. to hand, foot, mouth, eye &c ; discrimination between body and extra-organic things by touch and resistance and reference of particular sensations to external things outside the body; knowledge of resisting power and extension and of the form, color, taste &c of things; *understanding of distance* and position of things at first by touch and movement but finally by vision also. Finally with the development of memory and association of ideas comes an understanding of the connection between present and past sensations ; and the power of integrating the present sensations with a group of *revived sensations* and of referring the whole aggregate thus formed to a particular external thing in a definite locality in space is *mature perception.*

Conclusions:—The Velocity of Perception. We have treated only of the Psychological Process of Perception or of that of which we are actually conscious in the act of Perception. Another question :—What evidence does this conscious process really afford as to the existence and nature of an extra-mental world ? Whether there really is a material or extra-mental world and what can we really know of the nature of matter ?—the question between Realism and Idealism in its various forms. But this, Sully says, belongs to the Philosophy of Perception, and he confines himself to the Psychology of the subject.

CHAPTER VII

REPRODUCTIVE IMAGINATION—MEMORY.

If the perception or impression produced in us by external causes vanish as soon as the external causes are withdrawn, then there would be no permanent knowledge or thought. But in reality impressions are retained and preserved in the mind for purposes of thought and that in two ways. Every impression lingers in consciousness for a short time after the external cause is withdrawn. This is After-Image or After-Percept. But most impressions leave unconscious impressions of themselves in the brain or mind even after they have passed out of consciousness, by means of which they are retained and afterwards reproduced or raised into consciousness again in the fainter form of idea or representation—*Memory* or *Reproductive Imagination*. Consider :—

A. The *After-Percept* or *After-Image* is owing to the fact that the brain-process, set up by an impression from without, goes on for sometime after the external cause has ceased and is nearly as vivid as the original impression ; but differs from it in this that it moves about with every movement of the eye (because it is in the eye).

Distinguish Positive and Nagative After-Images.

Usually the After-Image retains the same color as the original impression, and is called *Positive*. But when the retina and the brain are very much exhausted, then the After-Percept becomes a colorless or dark image, and is called *Negative*.

The temporary persistence of impression is important in connection with the understanding of time. In order to understand the series *a*, *b*, *c*, *d*, *e* in time, it is necesary that the earlier *a*, *b*, *c*, should persist in consciousness, while the later *d*, *e* are being impressed. For the notion of time is derived from comparison of present impressions with past ones lingering in consciousness.

B. *Retention and Reproduction [illegible] Percept. Reproductive Imagination* or *Memory* (proper) [illegible] impression after vanishing from consciousness or [illegible] beneath the threshold of consciousness" is [illegible] in such a way as to be capable of being [illegible] consciousness again after a shorter or longer interval [illegible] form of idea, representation, or mental image (image being used for all the sensations in their revived form) and this reproduction of Percepts is called the *Reproductive Imagination* or more commonly *Memory.*

Distinguish two stages in Imagination.

(i) The period between the vanishing of the original impression from consciousness and its revival in the form of image, during which, though out of consciousness, it is *retained* in some way ready to be *reproduced* is called Conservation or *Retention*—preservation of knowledge ready to be revived.

(ii) The actual revival of the past and present in consciousness under the form of image or idea is called Reproduction.

Note—It is a great question how impressions are retained always, ready to be revived. How we preserve our past experience and knowledge so as to be able to recall them into consciousness when wanted. There are two hypotheses :

(i) Some say that the original mental impression merely sinks beneath the threshold of consciousness and becomes *latent* or *unconscious idea*—still in the mind though not in consciousness. (Herbart and Herbartians).

(ii) Some say that what really remains is only a modification or re-arrangement of brain-cells and fibres which the original impression left behind as a "trace" of itself in the brain and which, especially when deepened by frequent repetition, constitutes a tendency or disposition of the brain to revive the original brain-activity and thereby the original conscious state. This is called the *Cerebral* Hypothesis. (Materialists and others.)

7. *How are Revived Images distinguished from original Percepts ?*—

(i). It is a copy of [illegible] impression, [illegible] generally less vivid and distinct.

(ii). Percepts are [illegible] of Will. We can not call them up nor dismiss them [illegible] like. The images, on the contrary, are to a great [illegible] subject to Will, so that we can call them up and dismiss [illegible] when we like (though not wholly so). When the [illegible] independent of will, as happens in disordered states of mind, then they are apt to be mistaken for Percepts of actual present things (Spectral illusion).

(iii) Percepts depend on movement and position. We can move towards or away from the thing perceived ; whereas we carry the images about with us in our own minds and can raise or dismiss them at any time.

(iv) Impressions come and go suddenly, whereas images rise into consciousness and sink out of it again gradually.

Images or Representations involved in Perception. We have seen already that in Perception the present impression always revives traces, images, representations of past impressions of the same or similar connected objects which deepen and strengthen the present impression. It is by comparison between the present impressions and revived images of past impressions that we *recognise* things.

Note—The presence of Represented Images in Perception is well illustrated by what we call *Expectant Attention* or Anticipation (as in waiting to see a rocket) where we have in mind a nascent image of event about to happen (e. g. the flight of the rocket) and this antecedent image makes the perception of the object, when it comes, fuller and clearer. So it is in ordinary perception. The nascent images of past experiences make present ones fuller and clearer. They may be reduced to two heads :—the one *favouring Retention* most directly and the other *Revival of ideas.*

a. What may be called the "*depth of the impression*" *i. e.* the amount of trace of itself which it has left behind in the mind or brain and on which the retention of the idea depends.

This again will depend (i) partly on the degree of the original impression, the force with which the external thing impresses itself on brain and mind. (ii) partly on the degree of attention or mental concentration upon it which again depends partly on the degree of the impression, but mainly on its quality or power of exciting interest or feeling; (iii) partly on the repetition of the original impression which deepens the trace. But for this purpose *frequency* or nearness in time of the repetitions is essential as well as the number of repetitions, in order that the new impression may take effect before the old one has died away.

b. *Association of Ideas*—determining partly the Retention, but more especially the revival of images in consciousness. In the first place the mere depth of the impression constitutes a tendency or pre-disposition on its part to revive or rise into consciousness. But this pre-disposition of the latent image or idea has to be supplemented by a force coming from without the latent idea itself—"an 'exciting force." And this *exciting force* added to the idea's own force of predisposition is sufficient to raise the latent idea or image into consciousness. Now the exciting force, which raises the latent image into consciousness, proceeds from another image or percept already in consciousnesss and is called the *Force of Association*. *Association* therefore is a connection between images and ideas, such that when one is present to consciousness, it tends to raise another along with it, and then another, and so on, in simultaneous groups or successively in series according to the connection of the ideas.

Thus the idea *a* is connected with *b* and part of its force overflows into and raises *b*; *b* is connected with *c* and raises it while *c* is part of the collective group *c*, *d*, *e*, *f*, *g*, and thus brings the whole group before consciousness at once. Then *g*, raises *h*, and so on in a train of ideas single or in group. But there is a reason or cause for every step. Every idea suggests the other idea with which it is most closely connected or associated. But the transition of thought from one link of the chain to another by Force of Association is liable to be interrupted by impulses from without which force themselves upon us and begin a new train of associated ideas.

How these connections between ideas are formed—Different kinds of Association. There are two principal kinds—Association by Contiguity in place and time and Association by Similarity of nature.

I. Association by Contiguity. Two or more impressions or percepts experienced together or in close succession tend to become so connected in idea that when one of them is (by any means) introduced into consciousness it has a *tendency* to raise the other or others along with it. In other words their 'traces' become so connected that the same force, which raises the one trace or latent idea into consciousness, overflows into the other and tends to raise it also into consciousness (if there be room for it). Thus if the impressions *a, b, c, d,* be experienced together (contiguously) in time and space, especially if that experience be frequently repeated, then their traces or latent ideas *a, b, c, d,* become so connected that when A or *a* is brought before consciousness it tends to raise *b, c, d* along with it.

On what conditions does the strength of the Contiguous Association depend ?

(i) Partly on *Connective Attention i.e.* the degree of attention bestowed on the impressions A and B together or in connection with each other *i. e.* when they are both included or comprehended in one and the same state of attention, because in this way their ideas become integrated together as parts of a single complex whole. From the effect of attention in determining associations it follows that the order of connection among ideas is not determined wholly by the order of connection among external events ; because we have power of fixing attention on some rather than on others, and these become associated and are recalled while the others are forgotten. Thus of a series of impressions A, B, C, D, E, F we may fix our attention most on B, C, F. Then the order of reproduction will probobly be *b, c, f,* the others dropping out of mind.

(ii) Partly on *repetition of the impressions* in actual experience which tends to deepen the *traces* of the impressions and thereby strengthen the connection between their *traces* so that when one is revived it overflows with greater force into the other.

Note - It would seem then that the Force of Association will be the product of the force of attention (or its average) multiplied by the number of repetitions. In the case of successive impressions the Associative force follows the original order of the impressions, so that it is very difficult to recall them in reverse order e. g. letters of the alphabet, words of a poem.

Observe the use of symbles—These are mostly chosen *arbitrarily* and associated with their objects by a process of artificial Contiguous Association after requiring much time and effort to establish e. g. learning language, reading and writing Mnemonic systems.

What are *Trains of Ideas or Reproductions* ?

(1) *Single train*—associated images of a single sense e. g. a series of sights in walking through the town, (2) *Composite or Compound train*—images of two or more senses exercised simultaneously e. g. a train of sights accompanied by a train of sounds. This includes train of symbols with their train of significants e. g. the words and ideas. In listening to a speaker we experience two callateral trains viz that of sounds and that of ideas. But in speaking ourselves we experience two trains viz a muscular train in the organ of speech, auditory train in the sound of our own words. There are also *ideal trains*, and *trains of motor ideas*—Ideas of muscular exer cise and movement—of the eyes, limbs, and the organs of pronunciation.

The nature and use of language :—(i) It facilitates the *association of signs and significants* (2) *It helps the retention and reproduction of knowledge* ; because articulate sounds are on the whole more easily discriminated, associated among themselves and reproduced than ideas themselves, especially than complete [illegible] ideas. Now the words themselves being more easi[illegible] supply exciting causes to recall the ideas. (3[illegible] means of communicating the ideas from one mind [illegible]

Show that languag[illegible] of double *Association*—the muscular feelings with the sounds, both these together with the ideas.

What is the advanatage of Verbal over the signs and instruments of thonght?

The muscles and auditry organs of speech possess an exceptional amount of discriminating and retaining power more than any sense except vision, but can be used far more generally than vision.

How are Memory and Expectation distinguished from Reproduction in general?

Memory is reproduction accompanied with an understanding of the time and circumstances under which the impression was originally experienced—referring the reproduced image to a definite place in the order of past events in time and therefore accompanied by the notion of time and belief.

Anticipation or Expectation is representation accompanied by the notion of future time, referring the image to same definite place in a future series of events and therefore also accompanied by the notion of time and belief.

Reproduction or representation in general includes both these and also the revival of images from past experiences without any feeling or idea of the time when they were experienced or any belief with regard to them.

Understanding and Representation of Time:—A definite understanding of duration and time seems to be comparatively a late acquisition, later even than that of space. For though the acquisition of the notion of space supposes, as we have already found, some understanding of *succession* as contrasted with co-existence, yet there can not be a full understanding of time and duration *until the power of Memory and Representation is fully developed.* Understanding of mere succession arises, as we have found, from comparison of a present impression with several immediately perceding impressions presisting in image, *e. g.* suppose a series *a, b, c, d.* Now we are experiencing *d,* the preceding ones still persist in consciousness as imagess *a, b, c.* This gives understanding of the succession of impressions.

Understanding of a past time (as distinguished from mere succession—time separated from the present by an interval) arises probably in this way. A very vivid experience A (e. g. bright light) is followed by a faint one B (*i. e.* darkness), then the image of A (*i. e. a*) will persist far more into the state B and the contrast between A and B will bring out the understanding of past time when *a* was a real experience. (But does this explain any thing ?).

How the understanding of future time arises. Suppose we have experienced several times that the impression A is followed at an interval by the impression B, then they get associated in the same order and thought, so that when A occurs again it raises the images b, this image brings with it the *expectation* of the corresponding impression B and give therefore the idea of a future time of a difference between the realised *now* and an unrealised *not-now.* But does not this explanation beg the thing to be explained ? Does not expectation imply idea of future time ?(*For Understanding and Representation of a series in time* see book.)

U*nderstanding and* R*epresentation of duration in time*—This is derived not from experience of a series of impressions in time, but from the prolongation of one continuous unchanging state in contrast with a plurality of changing ones. See examples in book.

The higher form of time-representation—the fully developed idea of time—includes ideas of succession and duration combined into one complex idea. We understand the succession of fleeting events by contrast with something enduring and permanent or at least recurring always in the same permanent order as our own continuous existence or the permanent order of day and night; and we understand also the seasons and the duration again of the permanent course of our own life or of days and years) by contrast with the number of passing things and events contemporary with them. And the combination of both these factors gives the fully developed notion and understanding of time. (*See continuous experiences as measure of time, P. 264. Expla*[illegible]*e past. See P.* 265.)

II. *Association by Similarity—Law of Similarity*:—

An impression or image tends always to call up the image of any former impression resembling it and the greater the similarity the stronger the reviving force. Thus a present impression containing the elements A, B, C, D will tend to recall in idea the former experiences *a*, *b*, *c*, *d*; *a*, *b*, *f*, *g*; *a*, *f*, *g*, *h* &c according to their degree of similarity (*abc*, *ab*, *a* &c). For it would seem that similar impressions leave similiar *traces*, and that the renewed activity of any one *trace* tends to overflow into other *like* rather than *unlike* "traces", and following as it were the line of least resistance, overflows into the one likest itself.

Observe that Contiguous Association connects things adjacent in place and time but has nothing to do with the nature of the things themselves, whereas Similarity has nothing to do with place and time but depends on the nature of things.

Note. The relation of the two laws gives rise to much discussion :—

(1) Spencer reduced *Contiguity* to be a case of Similarity merely, and thus made only one Law of Association. For when a permanent A or *a* recalls a past experience it is only itself or something like it formed part of that experience, and thus what is really recalled is *a b*, *i. e.* itself and something more. Therefore it is really similarity that recalls the past experience. But *why does a bring b along with it*? Spencer says because *b* is connected with *a* by similarity of time, place and circumstances, so that the bond between *a* and *b* is also similarity. But this seems forced.

(2) Others would do away with Similarity and recognise only Contiguity. This view assumes that the power by which an impression recalls an identical impression is not association at all but *Identity*—that association is only between *differences.* Now *similarity* is *partial Identity*—the similariry of object a, b, c to b, c, d consists in the identity of b, c in both cases and the real association is between $b\ c$ and $a\ d$ which is *Contiguity*. Therefore when *like* raises *like*, the only association is the Contiguous one between the like elements and unlike ones. When a raises abc, the real association is between a and bc; the similarity of a and a is not association.

(3) Sully goes on to say that the principles are really different but always combined together. When A raises b, it really raises ab involving both Similarity and Contiguity. (*For influence and use of the Principle of Similarity as aid to memory in the acquisition of things*—of language, of science, of kinds of work &c see examples *P*. 268)

Complex and Convergent Association :—Several different impressions or ideas or train of ideas may be associated with the same thing, and though one is insufficient to recall it, their united force may. Thus A, B, C may be separately associated with x but neither can sufficiently revive x, yet A+B+C may be sufficient.

Divergent Association—A present impression or idea may be equally associated with several past ones. Here then there will be opposite attractions. The one will abstract the other and there may be no *Reproduction.* This is sometimes called *Obstructive Association*—one set of ideas excluding another.

To the above principal kinds of Association some add a third, viz. *Association by Contrast*—that one object or idea has a tendency to recall the image of its opposite *e. g.* black and white; darkness and light ; up and down; north and south. This arises from the fact that in learning to understand things we have to discriminate every thing from its opposite and the habit remains of passing from one to the other. Hence we may understand it as not a separate kind of association, but partly a logical Law or *Necessity of Thought*—that we must always understand A by distinguishing it from not-A (Law of Contradiction), and partly because of association by Contiguity, because the opposites are so often compared together that they get associated together by Contiguity.

The Association and Retention of Numbers.—Show that it is a case of double or even of triple association—the words, the written symbols, and in case of low [illegible] the actual things. (P. 273)

Distinguish Passive and Active Reproduction—Spontaneous and Voluntary Memory or Recollection.

Passive Memory.—In some cases the train of thought is left to depend wholly on the introduction of the ideas, their mutual attractions and repulsions among themselves, without any interference of Will, so that the order of images is determined by the relative "pre-disposing force" of the idea itself (or the force with which it tends to rise into consciousness) and the attractive or exciting force exercised upon it by the idea in consciousness for the time being—attention following the order of the ideas in the passive or reflex way just as they arise into consciousness in their order of association. Now each successive image or group of images continues to occupy the attention and maintain itself in the field of consciousness in proportion to the interest or feeling which it excites, and when its force of interest is no more, then the next idea most closely connected with it forces itself into its place, absorbs attention for the time being and excludes the former from the field of consciousness. Hence attention here is of the passive or reflex kind and the revival is determined by the spontaneity and association of the ideas among themselves.

Active Memory or Recollection. In other cases however Will interferes with the spontaneous flow of images. We will to revive a particular idea or image. But Will can not act upon *directly* and revive the image wanted, because Will being a conscious state can operate only on the images already in consciousness. How then can Will at all affect the revival of the latent image? Only in this way—by concentrating attention upon some image *already* in consciousness (whether by impression from without or spontaneous revival) and already known to have some connection with the image wanted. Then the effort of attention deepens and strengthens the present image, thereby rendering it more likely to overflow into and raise the missing one. If this does not succeed, then we have to try some other present image and find whether it can be made to raise the missing one, and so on shifting and concentrating attention upon different present ideas until we come upon one which by the Force of Association will raise the missing one. Thus suppose we want to remember and we have present in consciousness already *a*, *b*, *c*, *d*, ready at our command. We may suppose that *b* has some association with *x* and by effort of Will concentrate attention upon *b*. Then the increased activity of *b* may overflow into *x* and raise it. If not, by another effort of Will we turn to *a* or *b* and try whether it be sufficiently connected with *x* to raise it and so on, until we succeed to give it up altogether. This is *Active Memory* or *Recollection*. It is accompanied by a peculiar feeling as if our attention were divided and one part of it fixed upon the present image and the other upon vacant space to catch the first appearance of the latent idea rising to the threshold of consciousness.

Development of the Reproductive Faculty. At first there is only power of recognition, implying only some power of revival by Similarity. Thus the child recognises faces, animals, toys &c. Next the revived similars begin to bring up along with them collateral circumstances or adjucts which implies association by Contiguity. Thus at first *A* revives only *a* ; but soon *a* begins to bring up *b* and *c* along with it, and so on.

Then the power of revival by Contiguity gets stronger, and larger groups and trains of associations are formed, and finally the characteristics of good memory come to be (i) that impressions are 'stored' more easily *i. e.* less effort of concentration and repetition is needed to fix them in mind ; (ii) latent impressions are retained longer and (iii) are revived with greater clearness and fulness.

These characteristics do not always go together. Some are quick, but do not retain long; others slower, but retain longer and reproduce with greater clearness.

Varieties of Memory. There is a general power of retentiveness for all things more or less. This is somewhat aided by special retentiveness for special things, e. g. memory for words aids memory in general, because the words serve to revive the things. There are also special kinds of retentiveness for special departments—different sensations, different forms of muscular or intellectual work e. g. artists, musicians, scientists of different kinds, business &c. *Note.*

Kant's three-fold division of Memory—(i) *Mechanical or Symbolical Memory*—the power of remembering chiefly words and symbols, sounds and figures, and ideas indirectly by means of these; (ii) *Ingenious* or *Pictorial Memory*—the power of remembering chifly the concrete images of things themselves, picturing or representing them fully in the imagination—the concrete memory of the poet; (iii) *Judicious or Scientific Memory*—which means rather retaining the connections and relations of things, their causes and effects and remote analogies, and using these relations and connections as means of retaining and reviving the things themselves. Thus the idea of a cause will lead on the scientific mind to the train of effects, and an effect will lead it back to the series of causes.

The Physical Basis of Memory—the plastic power of the brain or power of forming new cells and fibres and new forms and modifications of these. This plastic power is greatest in early life and gradually diminishes. Hence it is early acquisitions and experiences that are most retained. Yet the power of acquistion does not diminish at the same rate as plasticity of brain, because past acquisitions make new ones easier, so as to need less modification of brain.

Causes of differences in Memory. They will depend upon (i) *origial Innate differences of mind and brain*; (ii) *differences of the organs of senses*—eye, ear &c., upon which discriminating sensibility and retentiveness to some extent depend; and (iii) *differences of Interest*—But this again depends mainly on mental and organic endowments.

CHAPTER VIII.

CONSTRUCTIVE IMAGINATION.

We have found that one form of imagination consists in merely reproducing past impressions as they were originally received, making the image an exact copy of the original which is *Reproductive Imagination* or *Memory*. But another form is *Constructive* or *Productive Imagination* which consists in reconstructing the elements of memory into new combinations of images forming groups and trains of images different from anything which we ourselves have experienced. Thus supposing we have experienced the Percepts A B, C D E,F G H &c, we can separate from these three elements and combine them in a new group. Thus we can form ideas of a golden mountain, a centaur, an iceberg, the landing of Caesar in Britain. Hence different modes of Reconstruction. We can separate a thing from its [surroundings and connect it with new ones. We can remove some of the qualities of the thing and substitute new ones e. g. conceive it smaller or larger. We can recombin different things, parts or properties of things which we have ourselves experienced into ideas of things which we have never experienced &c

Note. An element, however of unconscious Reconstruction, enters largely into *Reproductive Imagination* or *Memory*, becaus we are rarely able to reproduce any complex scene with perfect truth. Different experiences get mixed up more or less in memory without our even being conscious of it.

Observe that imagination is not limited to original poetical construction. In anticipating the future, in entering into another person's thoughts, in conceiving things we read or hear about, and in contriving, inventing, designing anything new, and representing in our own minds the theories and hypotheses of science and in conceiving the causes and explanations of things —in all these Constructive Imagination is at work.

Analyse the constructive Process into its elements :—

(1) *Reproduction of Images* from the past experience as the materials upon *which* the Reconstructive power operates, so that the power of Reconstruction is limited by the power of Reproduction. Our Imagination is limited by our power of Reproduction, because we can not construct anything new except out of materials reproduced by Memory.

(2) The *Elaboration* or working up of these reproduced images into new forms, like building a new structure out of old materials. This Reconstruction may go on passively and spontaneously (like Passive Memory) as in dreams, day-dreams, reverie, phantasy &c in which ideas rise and recombine spontaneously, or *actively, i. e.* the process of Reconstruction may be impelled and directed by Will (like Active Memory) as when we have a conception beforehand of the end to be attained or thing wanted and the means of attaining it, and Will guides the inventing process towards the thing required ; e. g. the architect knows beforehand the kind of building he wants. The poet knows whether he wants a tragedy, comedy or epic &c. And with this knowledge they are able to guide their imagination in the proper direction. But no effort of Will can directly produce the idea wanted. (See the steps of Voluntary Imagination *P.* 307).

Observe that though Will can impel and to some extent guide the process, it is not the essential part of the process. All very new and original combinations come spontaneously or passively and this power of original spontaneous production constitutes genius.

Distinguish between Receptive *and* Creative *Imaginations.*

Receptive Imagination is merely picturing or representing in our own minds what we hear or read of, different from our own experience (story, history, poem, scientific description) in which the particular details are suggested more or less by the words ; and we have (1) to conceive the details separately from materials of our own past experience, *which* are suggested by words (which is Reproductive Imagination or Memory), and (2) to put them together or recombine them in a new form intended by the writer (*which* is Constructive Imagination but of the lower form), both the materials and the recombination of them being suggested by the words of the writer e. g. an iceberg, the battle of Waterloo and so on. Thus the mere reading and understanding of histories, tales, poems, travels require imagination though of the lower kind.

Creative or Original Imagination—New and original construction unguided by words of others, as in original invention and creation, in industrial arts, fine arts &c, e. g. in inventing a new machine, designing a building, composing a poem &c. In literary creation especially, very complicate processes of reproduction, rejection and selection are needed, directed solely by the essence of what is beautiful and harmonious.

Hence in both cases, *the limits of Imagination are those of experience* (Explain how and in what sense. *P.* 308)

Various forms of Constructive Imagination :—

I. *Cognitive Imagination*—the degree of imagination concerned in the acquisition of knowledge *i. e.* in conceiving or picturing the true nature of things beyond what is directly revealed to us by Perception or lying beyond the reach of our personal experience as being distant, past or future, e.g. in picturing in our own minds the polar seas, the life of Caesar, scientific experiments, waves of light, minute structure and operations of brain &c; they really exist, though we have not seen them and therefore is Imagination applied to knowledge including scientific Imagination. Thus the ideas conveyed to us by reading and speech have to be pictured in our own Imagination by reproduction, modification, and reconstruction of materials of our own past experience; and on our ability to do this depends our understanding of the description as in geography, history and natural science &c, while in some forms of physical sciences as medicine, chemistry &c, the combinations of ideas are of a mere abstract character and further removed from actual experience.

And all reading, hearing and especially study involve a process of *Concreting the Abstract.* No writer or speaker can embody in words all the details that go to make up a Concrete thing or scene. In fact his words can directly express only a meagre abstract outline of it, so that the reader in order to have a full concrete conception of the scene has to fill up the abstract outline out of his own imagination (his imagination of what is wanting being guided by what is given), e. g. picturing a scene or event from a historian's or reporter's description, a country or building from description or from a map or plan of it, interpreting mathematical or chemical formulas, scientific descriptions and definitions, even the use of single abstract and general terms such as fortitude, generosity, quadruped &c, suppose the picturing of some concrete case in the imagination—a Concreting of the Abstract. An extreme case of this is the conceiving of extra-sensible things as the molecules of matter, ether-waves, brain-traces &c.

The use of Imagination in scientific discoveries. Some discoveries may be by chance, but most are made by first imagining or conceiving some likely explanation by the effort of imagination and then endeavouring by prolonged observation or experiment to ascertain whether these imagined explanations are right or not. These are called hypotheses or theories, and the formation of them is an effort of Constructive Imagination guided by knowledge already acquired.

II. *Practical Construction or Imagination* in practical contrivance and invention. This includes *physical acquisitions* as in learning to talk, walk, write, draw &c. We have to conceive or imagine always a combination of muscular movements before performing it successfully, and in this the child is much aided by *imitations of others.* The movements of others raise the idea of the required movements in the child before it has itself experienced them and this guides it to the performance of them.

Explain how *Practical inventions* involve original construction.

III- *Æsthetic Imagination or Construction* is the production of new combinations not for the sake of attaining an understanding and knowledge of things (Cognitive Imagination), nor for producing what is practically useful (Practical Imagination), but under the impulse of some prevailing feeling or emotion which stimulates the imagination and impels it to the construction of images and trains of images in keeping with itself, e. g. fear impels the mind to imagine terrible objects; exaggerated anger and love impel us to imagine persons and things better than they are; feeling of the beautiful impels the architect, musician, painter and poet &c to the reconstruction of beautiful forms.

The above definition however is confused somewhat by the fact that all imagination and in fact all voluntary activity are impelled by feeling and desire in some form and degree, e. g. by love of knowledge, desire of happiness, wealth, power, reputation &c, so that the classification seems too wide. But in these cases the feeling is reduced almost to an intellectual state (Sully says) —an anticipation, expectation or prospect of pleasure rather than the thing itself—not a present feeling, but the idea of a future one—whereas in the case of what he calls Æsthetic Construction the feeling is not in prospect merely but present and actual throughout the operation.

N. B. Æsthetic Imagination is commonly limited to construction and prompted by the feeling of the beautiful.

Imagination transcending reality—its dangers. The pleasure of imagination carries with it a double danger: (1) *Moral*—by dwelling too much on wonders of imagination one may grow discontented with the realities of life and cease to feel the ordinary motives of every-day life; and (2) *Intellectual*—by excessive activity of imagination the regions of fact and fiction may become confused and dreams confused with realities. This hardly applies to poetical imagination proper in which intellect largly predominates but to imagination prompted ny passions and prejudices.

The Intellectual value of Imagination. It follows that it stands in a double relation to intellect (i) when uncontrolled by Will and impelled by strong emotion and passion (fear, hate, prejudice and the like) it may impede, blind, pervert, and mislead the intellect in the pursuit of truth or confuse its operations; (ii) when controlled by Will and directed to ends of truth (the understanding of realities) it is a powerful and necessary auxiliary of the intellect in discovery and invention.

Development of Constructive Power:—it begins when reproductive power has attained a certain stage of perfection and reaction.

(i) Its first form in the child seems to be anticipation of of something new—its anticipation is at first perhaps purely Reproductive but soon becomes more or less *Constructive* as when it anticipates a danger or a new kind of pleasure.

(ii) Then it begins to build up fancies of its own invention as exhibited in play, identifying its play-things and sports with the business of real life.

(iii) Then it begins to understand and picture narrative and description through the medium of language.

(iv) Then it begins to produce purely mental constructions (creations) of its own without the help of play-things or descriptions.

(v) Finally voluntary imagination or power of controlling its own constructions and adapting them to ends is wholly acquired. (*Varieties of Imagination*—imagination in science, history, mechanics, art &c. See book)

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